CURTIS'S

BOTANICAL MAGAZINE,

COMPRISING THE

Plants of the Royal Gardens of Kew

AND

OF OTHER BOTANICAL ESTABLISHMENTS IN GREAT BRITAIN;

WITH SUITABLE DESCRIPTIONS;

BY

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(Or Vol. XCI. of the Whole Work.)

"Spake full well, in language quaint and olden,
One who dwelleth by the castled Rhine,
When he called the flowers, so blue and golden,
Stars that in earth's firmament do shine."—*Longfellow.*

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1865.

Mo. Bot. Garden,
1897.

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Tab. 5486.

LISSOCHILUS Horsfallii.

Mr. Horsfall's Lissochilus.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Lissochilus, *R. Brown in Lindl. Coll. Bot. t.* 31. *Perianthium* explanatum. *Sepala* herbacea (vel brunnea), parva, reflexa vel patentia, libera. *Petala* maxima, patentia, alæformia. *Labellum* saccatum, concavum, subintegrum v. trilobum, cum basi columnæ sæpius connatum. *Columna* erecta, brevis, semiteres. *Anthera* bilocularis, cristata. *Pollinia* 2, postice biloba, caudicula lineari brevi, glandulâ triangulari. *Lindl. Gen. et Sp. p.* 191.

Lissochilus *Horsfallii;* foliis plicatis acutissimis scapo radicali exaltato multifloro duplo brevioribus, bracteis amplexicaulibus sessilibus acutis, sepalis æqualibus lanceolatis acuminatis undulatis retusis, petalis multo majoribus patentibus subquadratis obtusis, labello sublibero basi infundibuliformi obscure trilobo, lobis lateralibus maximis convexis ascendentibus rotundatis, epichilio ovato obtuso 3-costato, columnâ marginatâ, antherâ bidentata. *Bateman.*

For the opportunity of figuring this fine addition to the rare genus *Lissochilus* we are indebted to J. B. Horsfall, Esq., M.P., of Bellamour Hall, Staffordshire, to whom it was sent (in 1861) from the Old Calabar River, by Mr. S. Cheetham. It flowered in October last in Mr. Horsfall's collection, treated as a warm terrestrial Orchid. In habit and in general appearance it bears some resemblance to the well-known *Phajus grandifolius* (*Bletia Tankervilliæ*), but the structure of the flowers is altogether different. Perhaps its nearest affinity is with another charming species of *Lissochilus*, *L. roseus*, also a West African plant, but which, it is much to be regretted, has long since disappeared from our collections. May we not hope that the evidence now afforded of the beauty of certain West African Orchids may lead to increased efforts for the introduction of additional species on the part of those who, like Mr. Horsfall, have at their command peculiar facilities for obtaining the natural productions of the countries in question? For even if it be true that a large proportion of the Orchids of intertropical Africa are unattractive,

there are others—some of the *Angræca* for example—that are now as highly prized as any plants of their order. And to these many splendid additions would doubtless be made, could we but obtain a few collections from the Niger and other mighty streams that water the richest portions of the African continent. The head-waters of the Nile would also contribute their quota, for among the limited collection of specimens brought home by Captains Speke and Grant, there exists a remarkable *Angræcum* which in the length of its tails might vie with the well-known *A. caudatum.*

Some thirty years ago the name of Mr. Horsfall's excellent father might be frequently met with in the pages of the 'Botanical Magazine,' in connection with divers plants that he had the honour of introducing to this country, among which the still popular *Ipomæa Horsfallii* may be cited as not the least remarkable. And it is with no ordinary pleasure that I now dedicate to the worthy son of a worthy sire the beautiful plant that is figured in the accompanying Plate, and which he has been the means of securing to our gardens.—*J. B.**

Descr. A terrestrial pseudobulbous plant, producing a tuft of several *leaves*, which are plicated, very sharp-pointed, and from two to three feet long by four to six inches broad. *Scape* radical, twice the length of the leaves, upright, bearing at its extremity a dense, many-flowered truss of large and beautiful flowers. *Bracts* long and pointed, fitting tightly round the scape. *Sepals* greenish on the outside, but of a purplish brown internally, an inch long, lanceolate-acuminate, waved at the edges, bent backwards. *Petals* much wider than the sepals, spreading, obtuse, almost square, half the length of the ovary, white, suffused with rose. *Lip* nearly free, funnel-shaped at the base, slightly three-lobed; the lateral lobes very large, standing erect, convex, rounded, green, streaked with rich purplish-crimson. *Epichil*, or centre-lobe of lip, ovate, blunt, of a deep puce colour, with three whitish elevated ridges on its disk, and which run down to base of lip. *Column* short, half-round, with membranous edges. *Anthers* surmounted by a crest composed of two short diverging teeth.

Fig. 1. Reduced view of the entire plant. 2. Front view of the lip. 3. Column. 4. Pollen-masses:—*all slightly magnified.*

* Our artist was assisted in the preparation of the Plate by a beautiful drawing from the pencil of Mrs. Horsfall, which gave a most accurate representation of the habit of the plant.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

DOMBEYA Burgessiæ.

Miss Burgess's Dombeya.

Nat. Ord. Byttneriaceæ.—Monadelphia Polyandria.

Gen. Char. Involucellum triphyllum, unilaterale, deciduum. *Calyx* quinquepartitus, persistens, laciniis æstivatione valvatis. *Corollæ petala* 5, imo calyci inserta, obovato-inæquilatera, æstivatione convoluta, marcescenti-persistentia. *Stamina* 15–20, imo calyci inserta, basi in cupulam brevem connata, quinque sterilia filiformia vel ligulæformia, cum duabus vel tribus fertilibus paullo brevioribus alternantia; *filamenta* filiformia v. subulata; *antheræ* introrsæ, biloculares, erectæ, loculis longitudinaliter dehiscentibus. *Ovarium* sessile, quinqueloculare. *Ovula* in loculis 3–4, angulo centrali biseriatim inserta, adscendentia. *Stylus* terminalis, simplex; *stigma* quinquefidum, lobis acutis revolutis. *Capsula* coriacea, quinquelocularis, septicide pentacocca, *coccis* tandem bivalvibus, abortu monospermis. *Semina* adscendentia, *raphe* adnata, *chalaza* incrassata. *Embryo* in axi albuminis parci subcarnosi orthotropus; *cotyledonibus* foliaceis bipartitis, convolutis; *radicula* umbilico proxima, infera.—Arbusculæ *vel* frutices, *in insulis Borbonicis, Madagascaria, et parvius in Asia tropica crescentes;* pube *stellata;* foliis *alternis, petiolatis, cordatis integris vel lobatis, crenatis;* stipulis *deciduis;* floribus *axillaribus, umbellatis vel corymbosis;* involucelli *foliolis ovatis v. cordatis, vel angusto-lanceolatis linearibusve. Endl.*

Dombeya *Burgessiæ;* subarborescens, ramis petiolis pedunculisque pubescenti-villosis, foliis molliter pubescentibus cordatis acute quinquelobis grosse crenato-serratis, stipulis ovato-acuminatis deciduis, pedunculis petiolo longioribus, floribus cymoso-corymbosis ebracteatis, laciniis calycinis anguste lanceolatis demum reflexis, petalis oblique lato-deltoideis obtusissimis albis basi venisque purpureo pictis, ovario tomentoso.

Dombeya Burgessiæ. *Gerrard, in Harv. Fl. Cap. Suppl. p.* 590. *Harv. Thes. Cap. v.* 2. *t.* 137–8.

Dr. Harvey, who alone has described and figured this charming tree or shrub, states the height of it at 8–10 feet. Our plant has in two years' time attained that height, from the period of sowing the seeds, which we received from Dr. Harvey. It has been recently discovered in South Africa by Mr. J. M'Ken,

in Zulu-land; and at Klip-River, Natal, by Mr. W. T. Gerrard, who named it in compliment to Miss Burgess, of Birkenhead. The genus *Dombeya* is a very beautiful one, almost peculiar to tropical Africa and its eastern islands, but scarcely extending so far south as the Cape of Good Hope. Three species, however, are described by Dr. Harvey, in his admirable 'Flora Capensis,' as inhabiting Uitenhage and Natal, in the first volume; and three more appeared in the Supplement to the second volume. The author anticipates the discovery of others in the Natal district, but, as he justly observes, scarcely one from them finer than this. Its large fragrant flowers appeared with us in August.

Descr. Our plant in the conservatory of Kew promises to be arborescent, which, in little more than two years raised from the seed, is ten feet high, moderately branched at the summit; the *younger branches* herbaceous, terete, and downy. *Leaves* alternate, long-petiolate, six inches to a span long, cordately five-lobed, pubescently hirsute; the *lobes* acute, coarsely and unequally serrated, terminal one acuminate. *Stipules* ovate, acuminate, at length deciduous. *Peduncle* in our plant axillary, longer than the petiole, downy, corymbose, bearing many large white *flowers*, roseate in the disk, with the same tint extending into the veins. *Calyx* in our plant ebracteolate, of five spreading, at length reflexed lanceolate *sepals*. *Petals* obliquely subdeltoid, very obtuse, concave. *Column* of *stamens* short and cup-shaped, terminating in five *sterile*, long, linear-spathulate *stamens*, between which, but not half their length, are generally three (sometimes two) *fertile* ones. *Filaments* filiform. *Anthers* oblong, two-celled. *Ovary* globose, downy. *Style* filiform, shorter than the sterile filaments, but longer than the fertile ones. *Stigmas* five, linear, reflexed, downy.—*J. B.*

Fig. 1. Petal. 2. Portion of the staminiferous column, with three fertile and two sterile stamens. 3. Pistil:—*all more or less magnified.*

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W. Fitch, del. et lith.

Vincent Brooks, Imp.

DENDROBIUM Parishii.

Mr. Parish's Dendrobium.

Nat. Ord. Orchideæ.—Gynandria Diandria.

Gen. Char. (*Vide supra*, Tab. 5303.)

Dendrobium *Parishii;* caulibus crassissimis subpendulis floriferis aphyllis membranulis albidis indutis, foliis coriaceis oblongo-lanceolatis obtusis erosis cito deciduis, floribus geminatis aut ternatis racemum spurium formantibus longe pedicellatis, sepalis oblongo-lanceolatis acutis, petalis paulo latioribus unguiculatis ovatis obtusiusculis pedicello duplo brevioribus, labello indiviso cucullato apiculato fere orbiculari, limbo et margine pulvinato. *Bateman.*

This new *Dendrobium* was sent (in 1862) from Moulmein by the Rev. C. S. P. Parish to Messrs. Hugh Low and Co., of the Clapton Nursery, in whose establishment, as also in the collections of Mr. Rucker and Mr. Day, it has flowered beautifully during the past season. At first sight it appears to bear a certain amount of resemblance to *D. nobile*, but it is in reality perfectly distinct. Even when out of flower it is readily distinguished by its thick, clumsy, leafless stems, which are bent downwards in a stiff ungainly manner, while the stems of *D. nobile* and *D. moniliforme* hold themselves erect, and taper gracefully towards the base. The flowering-season of these latter species is likewise different, being confined to the winter months, whereas *D. Parishii* blossoms in summer.

A glance at the recent volumes of the 'Botanical Magazine' will show the large number of new and beautiful Orchids that have been secured to the collections of this country through the zeal and enterprise of Mr. Parish, whose eye seems to be ever ready to detect any new forms amid the striking vegetation of the rich country that is now the scene of his missionary labours. It is, however, among the Dendrobia that his most remarkable discoveries have been made, and I have therefore a peculiar pleasure in associating his name with a new species of the beautiful genus that owes so much to his diligent researches.—*J. B.*

January 1st, 1865.

Descr. *Stems* a foot or more long, extremely thick throughout their whole length, bent downwards, covered, when young, with thin, white membranes, which fall off the second year. *Leaves* stiff and leathery, from two to four inches long, blunt and usually a little notched at the ends, falling off the first year. *Flowers* in twos or (more rarely) in threes, produced freely on a short spurious *raceme*, along more than half the entire length of the stems. *Pedicels* nearly two inches long. *Sepals* half the length of the pedicels, oblong-lanceolate, acute, of a beautiful light-rose colour, except at the base, where the rose-colour fades into white. *Petals* same colour as the sepals, than which they are slightly broader, unguiculate, ovate, somewhat obtuse. *Lip* entire, shorter than the sepals, and (when spread flat) nearly round, apiculate, hooded, downy in front and at the edges, with rich purple interior markings on either side the throat, and a lighter tint along its centre and at the recurved apex.—*J. B.*

Fig. 1. Column. 2. Lip:—*magnified.*

W Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5489.

PROUSTIA pyrifolia.

Pear-leaved Proustia.

Nat. Ord. Compositæ (Mutisiaceæ).—Syngenesia Labiatifloræ.

Gen. Char. Capitulum subquinqueflorum, homogamum, discoideum. *Involucri* turbinati floribus multo brevioris *squamæ* coriaceæ, adpressæ, obtusissimæ, extimæ minimæ. *Receptaculum* planum, piloso-fibrilliferum. *Corollæ* glabræ, bilabiatæ, labiis æquilongis, revolutis, exteriore latiore apice tridentato et interiore bifido, v. exteriore quadridentato, interiore indiviso integro. *Staminum filamenta* distincta, glabra, plana, *antherarum* caudæ laceræ, longæ, *alæ* breves, lanceolatæ. *Stylus* superne hispido-puberulus. *Achenia* oblonga v. trigona, teretiuscula v. trigona, erostria, pilosa, callo apicali. *Pappus* biserialis, æqualis, paleaceus, *paleis* angustissime linearibus, apice paululum incrassatis vel profundius serratis.—Arbusculæ *Chilenses et Peruvianæ;* foliis *alternis, petiolatis coriaceis, integerrimis v. denticulatis;* capitulis *paniculatis. Endl.*

Proustia *pyrifolia;* altissime scandens, flexuosa, foliis petiolatis coriaceis cordato-ovatis apiculatis integerrimis v. spinuloso-dentatis glabris v. subtus canescentibus, ad basin petioli pulvinulo spinigero, floribus corymbosis, pappo pulcherrime purpureo-roseo.

Proustia pyrifolia. *Lag. in Annal. du Mus. v.* 19. *p.* 70. *t.* 4. *De Cand. Prodr. v.* 7. *p.* 27. *Gay, Fl. Chil. v.* 3. *p.* 295. (P. oblongifolia, *Don, and* P. glandulosa, *De Cand., may probably be considered synonyms.*)

A recent introduction of Messrs. Veitch and Son, from Chili, which, however unattractive in its flowers and foliage, yet, as the fruit advances to maturity, is a singular and beautiful object, for the long pendent branches and foliage are almost wholly concealed by the mass of rich rose-purple feathered pappus. Cultivated, as no doubt it will soon be, as a greenhouse climber, it cannot fail to be very attractive; and let it be remembered that it is of such rapid growth, that in its native quebradas of Chili, it climbs to the tops of the highest trees, as stated by Bridges and M. Gay. It has flowered for the first time at the Chelsea Nursery, in July, 1864.

Descr. A lofty perennial *climber*, with flexuose *branches*, which are striated and downy, younger ones often very flexuose. *Leaves* alternate, two inches long, ovate or elliptical, often a

little cordate at the base, apiculate at the point, coriaceous, the margin often quite entire, at other times strongly spinuloso-denticulate, mostly glabrous above and reticulated, beneath glabrous or canescent and subtomentose. *Petioles* very short, at the base beneath having an excrescence or *pulvinulus*, terminating in a curved spine. *Peduncles* axillary in the long terminal branches, corymbose, but paniculate as they advance to maturity, bearing small leafy, ovate *bracts*. *Flowers* or *capitula* very small. *Involucre* of a few imbricating, green, oblong *scales*. *Florets* pale-purple, about five, hermaphrodite, two-lipped; *external* lip three-toothed, *inner* one bipartite. *Achenia* minute; *pappus* of many slender hairs, a little thickened upwards, and then rough, at first upright, at length spreading, and collectively forming a plumose mass, of great length and breadth.

Fig. 1. Leaf, partially toothed at the margin, with the cushioned spine at the base of the petiole,—*natural size*. 2. Capitulum. 3. Single floret. 4. Hair from the pappus:—***more or less magnified.***

W. Fitch, del. et lith.

Tab. 5490.

SWAINSONIA occidentalis.

Western Swainsonia.

Nat. Ord. Leguminosæ.—Diadelphia Decandria.

Gen. Char. Calyx urceolato-campanulatus, quinquedentatus, *dentibus* duobus superioribus approximatis. *Corollæ* papilionaceæ *vexillum* amplum orbiculatum emarginatum explanatum, disco circumscripto basi bicallosum, *alas* angustas, basi exciso-biauriculatas et *carinam* adscendentem obtusam superans. *Stylus* postice longitudinaliter barbatus; *stigma* terminale. *Legumen* ovatum, *stylo* mucronatum, turgidum, polyspermum. *Semina* (plerumque parva, reniformia, *strophiolo* nullo, *Benth.*).—Suffrutices *in Nova Hollandia (præcipue orientali) extratropica indigeni;* foliis *imparipinnatis, multijugis;* stipulis *deciduis;* racemis *axillaribus folio longioribus;* floribus *purpureis v. coccineis. Endl.*

Swainsonia *occidentalis;* subglabra, foliis pluri- v. multijugis, foliolis oblongo-obovatis, stipulis foliaceis reniformi-deltoideis, racemis elongatis multifloris, pedicellis bracteola basali conspicue longioribus calycem subæquantibus, calycis dentibus ciliatis et intus sericeis, petalis violaceis, vexillo carinam erostrem parum tortum superante basi calloso, germinis stipite sursum barbato, stylo longitudinaliter ciliato breviusculo, germine angusto præter basin glabro. ***Mueller.***

Swainsonia occidentalis. *Mueller, Fragm. Phyt. Austr. v.* 3. *p.* 46. *Benth. Fl. Austral. v.* 2. *p.* 219.

Diplolobium Walcottii. *Muell. in Trans. Bot. Soc. Edin. v.* 7. *p.* 489.

This very handsome species of the very beautiful genus *Swainsonia* has been raised from seeds sent from Western Australia by Mr. Wm. Thompson, of Ipswich, from whom we received specimens in the summer of 1864. Our earliest knowledge of it was from specimens gathered by Mr. Bynoe at Depuech Island, and abundantly in sterile places in Nichol Bay, during Gregory and Ridley's Exploring Expedition, both in North Australia. Drummond also appears to have gathered it in West Australia (as it has been raised from his seeds, and first blossomed in 1863), and Mr. Oldfield gathered it in the Murchison river.

Of this genus (including *Cyclogyne* of Bentham and *Diplolobium* of Mueller) fourteen species have been published by Mr.

Bentham, in the second volume of his valuable 'Flora Australiensis;' of these, two are already figured in this work, viz. *S. coronillæfolia*, Tab. 1725, and *S. Greyana*, Tab. 4416. In the copiously-flowered racemes and in the colour of the corollas the present will bear comparison with any known species, and cannot fail to prove a great ornament to our greenhouses.

Fig. 1. Calyx and pistil. 2. Vexillum. 3. One of the wings. 4. The carina:—*all more or less magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp

Tab. 5491.

EPIDENDRUM DICHROMUM, *var.* AMABILE.

Beautiful Variety of the Two-coloured Epidendrum.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 5336.)

Epidendrum *dichromum;* pseudobulbis ovato-fusiformibus 2- vel 3-phyllis, foliis rigidis ligulatis planis obtusis scapo paniculato multifloro brevioribus, sepalis lineari-lanceolatis acutiusculis, petalis obovato-lanceolatis duplo latioribus, labelli profunde trilobi lobo medio obcordato pluriès costato lateralibus brevioribus rotundatis apice patulis, columnâ obtuse auriculatâ.

Epidendrum dichromum. *Lindl. Fol. Orch., et in Bot. Reg.* 1843, *Misc.* 119.

This charming *Epidendrum* was imported last year from Bahia by Messrs. Hugh Low and Co., of the Clapton Nursery, through whom it speedily found its way into all the principal collections in the neighbourhood of London. In many of these it has already flowered, and I was myself fortunate enough to see it in bloom last autumn in Mr. Bassett's garden, as well as at the establishments of Mr. Williams, of Holloway, and of Messrs. Lee, of Hammersmith. In each case the variety was different, the sepals and petals in Mr. Bassett's plant being of a pale rose-colour, in that of Mr. Williams they were nearly white, while in Messrs. Lee's specimen—from which the figure is derived—both tints were combined with such pleasing effect as to merit the distinctive appellation of '*amabile*' which I have ventured to add to the specific name.

Mr. Low's collector found the plant in exposed places on the margin of rivers, establishing itself on the branches of low straggling bushes, and sending its roots down into the sand amidst which they grew. Taking their cue from these peculiarities in its habit in a wild state some cultivators are attempting to grow the species potted in sand, but I scarcely expect they will succeed. In the meantime it seems to thrive upon a block of wood or in a pot nearly filled with potsherds. It will

bear exposure to the light, and, while growing, must have a good amount of heat.

When I first examined the plant I thought it was probably new, but I am now satisfied that Professor Reichenbach was right in referring it to the *E. dichromum* of Lindley, in despite of some minor discrepancies, for which its tendency to run into varieties may readily account.

The species of *Epidendrum* are not usually popular with cultivators, few of them possessing much brilliancy of colour; but the present subject is a notable exception—rivalling, as it does, the best of the *Barkerias*—and there are others of equal or greater beauty still to introduce. Among the latter I would specially instance *E. erubescens*, which produces a panicle nearly four times the size of the one represented in the Plate, and with flowers of a similar hue. It is a native of Oaxaca, whence living specimens were imported more than twenty years ago, they all however died because they were kept too warm. Surely an attempt ought to be made to re-introduce so desirable a plant, which we should now be able to manage with perfect ease.—*J. B.*

Descr. *Pseudobulbs* clustered, from three to six inches long, smooth, round, ovate-oblong. *Leaves* two or three on each bulb, strap-shaped, from six inches to a foot or more in length, rather blunt at the ends, erect, and rigid. *Scape*, in the wild specimens, three feet high or more, bearing a many-flowered panicle. The *flowers* vary both in their size and tints, some being as large and as brilliantly rose-coloured as the specimens represented in the Plate, while others are almost entirely white, and considerably smaller. *Sepals* about an inch long, linear-lanceolate, rather sharp at the ends; *petals* wider than the sepals, and obovate. *Lip* deeply three-lobed, the middle lobe obcordate, with many ribs on its disk, of a beautiful deep crimson, with light margin; the lateral lobes are shorter, spreading at the ends, white, externally turned up with purple. *Column* as long as the lateral lobes of the lip, bearing two short blunt wings.

Fig. 1. Lip. 2. Column. 3. Pollen-masses:—*all slightly magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5492.

MORENIA FRAGRANS.

Fragrant Morenia.

Nat. Ord. Palmæ.—Diœcia Hexandria.

Gen. Char. Flores dioici in spadicibus ramosissimis, *spathis* pluribus basilaribus, apice apertis cinctis, sessilibus, ebracteati. *Masc.: Calyx* cupularis, tridenticulatus. *Corolla* tripetala; *petalis* carnosulis, late ovatis, æstivatione valvatis. *Stamina* 6, e fundo corollæ; *filamenta* filiformia; *antheræ* oblongæ, basifixæ. *Ovarii* rudimentum. *Fœm.: Calyx* cupularis, tridentatus. *Corolla* gamopetala, rotato-campanulata, *tubo* brevi, *limbi* trilobi laciniis ovatis acutiusculis, æstivatione valvatis. *Staminum* rudimenta 6. *Ovarium* ovato-subglobosum, trilobulare. *Stigmata* 3, sessilia, deltoidea. *Bacca* monosperma, parce carnosa. *Albumen* æquabile, corneum. *Embryo* supra basim dorsalis.—Palmæ *Peruanæ, rupicolæ;* caudice *tenero arundinaceo, annulato;* frondibus *terminalibus, pinnatis;* pinnis *planis, aut leviter reduplicatis, inermibus, lævigatis, glabris;* spadicibus *infra comam verticillatis, simpliciter ramosis;* spathis *membranaceis, primum spadicis ramos omnino obtegentibus, tandem in pedunculo persistentibus;* floribus *albis v. flavidis;* baccis ***olivæformibus, viridibus.*** *Endl.*

Morenia *fragrans;* caudice arundinaceo subsexpedali gracili, frondibus ovatis obtusis sublonge petiolatis, petiolo basi longe vaginante, pinnis pedalibus anguste lanceolatis acuminatis planis elevatim venosis inermibus, pedunculis aggregatis copiose spathaceis, spatha suprema seu florali longe rostrata, spadice nutante pedali ramosa alba.

Morenia fragrans. *Ruiz et Pav. Fl. Per. et Chil. Prodr. p.* 152. *t.* 32. *Syst. Veget. Fl. Per. et Chil. p.* 292. *Mart. Palm. v.* 3. *p.* 162.

Morenia Lindeniana. *Herm. Wendl. in Herb. nostr.*

Chamædorea Lindeniana. *Wendl. Index Palmarum*, 1854, 60.

The genus *Morenia*, next of kin to *Chamædorea*, Willd., was established by Ruiz and Pavon in 1794, on a small graceful Peruvian Palm; and the only species known to those authors was the *M. fragrans*. To this Martius added a second species, *M. Pœppigiana*, figured in Mart. Palm. at tt. 140, 141, and which so far resembles our plant, that if I had been uninfluenced by any other authority, I should have been disposed to consider the two the same. He described it as scarcely differing from *M. fragrans*, except in the "taller caudex and inodorous

flowers." Our present plant was received from Linden in 1850, named "*Chamædorea*" (without locality), and has been named by Wendland *Morenia Lindeniana*, in our Herbarium; but there is a *Chamædorea Lindeniana*, as above quoted, without any character or mention of country, with a reference to Otto and Dietr. Gartenz. 1853, n. 18. p. 139, which I have no opportunity of consulting. It is certain, however, that we possess specimens of this same Palm in our herbarium from Chacapoyas, Peru (*Mathews*, *n.* 3108?, "San Capilla" of the natives), Santa Martha (Purdie), and an allied plant from Salango, Columbia, gathered by the late Dr. Sinclair, which Mr. Bentham has (probably correctly) named *Morenia fragrans?* I think it therefore safer to consider this to be the same as the *M. fragrans* of Ruiz and Pavon, rather than increase the number of *species dubiæ*, which are so puzzling to the botanist. There can hardly be a doubt (judging from the figure) that Martius's *M. Pœppigiana* is a closely allied plant to this; indeed, he says of it, "videtur a *Morenia fragrante* divisa," but the distinctions he gives seem to be of very trifling value. Our flowering-plants are destitute of female flowers.

It is to be regretted that these *smaller* Palms, which present such graceful forms, and occupy little space, are not more cultivated in our stoves. It is only from the living plant and correct figures that we can arrive at a knowledge of their genera and species.

Fig. 1. Much reduced flowering-plant. 2. Base of a pinna.—*natural size.* 3. Flowering portion of the caudex,—*natural size.* 4. Male flower-bud. 5. Male flower, with an abortive pistil:—*both magnified.*

5103

W Fitch, del et lith.

Vincent Brooks, Imp

Tab. 5493.

AGAVE Saundersii.

Mr. Saunders's Agave.

Nat. Ord. Amaryllideæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 5333.)

Agave *Saundersii*; acaulis, foliis horizontaliter patentibus glaucis bipedalibus 4 uncias latis lanceolato-oblongis basi angustiore spinoso-acuminatissimis, margine spinosis, spinis triangulari-acutissimis subdistantibus atro-purpureis, scapo 14-pedali copiose bracteato, pedunculis 4-pollicaribus teretibus horizontalibus distantibus, basi unibracteatis, bractea ovata longe subulata basi inferne lato-carinata, fasciculis globosis submultifloris, floribus compactis subsessilibus basi bracteolatis, ovariis subcylindraceis obscure sulcatis viridibus sesquipollicaribus, limbi flavi laciniis suberectis oblongo-lanceolatis acutis, staminibus perianthii longitudine æqualibus, antherisque pallide flavis, stylo $\frac{1}{2}$ longitudine filamentorum, stigmate globoso, capsula (immatura) elliptica.

Perhaps no plants require more illustration by figures than the species of a genus of which we here represent one, which we venture to consider as new. It promises to be a genus numerous in individuals, and these of a most interesting character, and of which the well-known American Aloe (*Agave Americana*) is the type. Travelling botanists in vain attempt to preserve specimens for the herbarium,—they cannot therefore be studied *there*;—and in our gardens, except in some great public establishments, few are disposed to sacrifice the space necessary for their cultivation, and they are proverbially shy of flowering, so much so, that the *Agave Americana* is generally and to this day spoken of as the plant which "flowers once in a hundred years." It is true that of late, in a German work,* a "monographische Skizze" is given of no less than sixty-four species, apparently of those in cultivation, with brief specific characters,—a large proportion of them derived from the foliage alone, so that they

* 'Wochenschrift des Vereines zur Beförderung des Gartenbaues in den Königlich-Preussischen Staaten, für Gärtnerei und Pflanzenkunde.'

can be of very little service in scientific botany. At any rate, we fail to discover our present *Agave* among them. It is from the rich collection of succulents in the possession of our friend William Wilson Saunders, Esq., of Heathfield, Reigate. Its origin is not known, and we can only say it is probably a native of Mexico, a region so rich in species of this genus. It has flowered in the winter season, and now, January, 1865, the fruit seems fully formed, but at present quite green.

Descr. Stemless. *Leaves* singularly spreading, nearly horizontally, the lowest ones lying close to the ground, one and a half to two feet long, moderately thick, glaucous, oblong-lanceolate, suddenly terminating in long purple-brown *spines*, nearly plane or with the spinous margins a little upturned; the *spines* distant, from a broad base triangular, dark purple-brown. *Scape*, in our plant, fourteen feet long, stout in proportion, cylindrical, beset at very short intervals with erect, appressed, subulate scales, which soon become marcescent. *Clusters* or *fascicles* of *flowers* numerous, subglobose, densely crowded, terminating in a horizontal *peduncle*, four inches long, its base subtended by a large, ovate, acuminate *bract* deeply carinated below. *Secondary fascicles* subsessile and bracteolated at the base. *Ovary* one and a half inch long, green, subterete, but obscurely grooved or six-angled, crowned by the yellow *limb* of four, nearly erect, acuminated *segments*. *Stamens* six, yellow; *filaments* equal in length with the perianth, and inserted between the segments. *Anthers* very large, deep-yellow, versatile. *Style* half the length of the filaments, terminated by a clavate *stigma*. *Capsule* (at present immature) nearly elliptical, crowned by the withered limb of the perianth.

Fig. 1. Greatly reduced figure of the entire plant. 2. Much reduced figure of a leaf. 3. Reduced figure of a fascicle of flowers, with its peduncle and carinated bract at the base. 4. Apex of a leaf:—*natural size*. 5. Secondary cluster of flowers,—*natural size*. 6. Transverse section of an ovary,—*slightly magnified*.

W. Fitch. del et lith.

Vincent Brooks, Imp

Tab. 5494.

CŒLOGYNE FUSCESCENS, *var.* BRUNNEA.

Reddish-brown Cœlogyne.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 5462.)

Cœlogyne *fuscescens*, var. *brunnea;* pseudobulbis elongatis teretibus, foliis latis oblongis plicatis utrinque acutis, racemo nutante paucifloro, bracteis deciduis, sepalis lanceolatis acuminatis, petalis angustioribus conformibus, labelli trilobi lobis lateralibus porrectis subacutis, lobo medio subquadrato plano lineis 3 elevatis juxta basin. *Lindl. quibusdam mutatis.*

Cœlogyne fuscescens, *var.* brunnea. *Lindl. Fol. Orch., et in Gard. Chron.* 1848, *p.* 71. *cum icone.*

This beautiful *Cœlogyne* was first seen in our gardens about the year 1848, when a notice of its flowering appeared in the 'Gardeners' Chronicle,' but it would seem to have been almost immediately lost,—at all events I am not aware that it has ever blossomed a second time. This circumstance is the more remarkable since the plant, which Messrs. Hugh Low and Co. have lately re-introduced, is now found to grow freely and flower profusely under the most ordinary treatment. It is a native of Moulmein, from whence it was sent by Mr. Parish to Messrs. Low. It has already blossomed in several places, but the finest specimens were produced in Mr. Day's collection, and from these, with his kind permission, the accompanying figure was prepared. The species flowers in the winter months, and continues in beauty for several weeks. It is among the best of the Cœlogynes.—*J. B.*

Descr. *Pseudobulbs* round and rather narrow, from three to four inches long, and nearly the same distance apart, bearing two broad plicated *leaves*, tapering at either end. *Raceme* nodding, appearing before the leaves, and usually bearing from three to eight *flowers*, all expanded at the same time, and continuing long in perfection. *Bracts* sheathing, speedily falling off. *Sepals* (of which the dorsal is the broadest) lanceolate-acuminate, much wider than the slender linear *petals;* both are upwards of an inch long, and of a very delicate texture, white, with a yellowish

tint. *Lip* (in the variety represented in the Plate) distinctly three-lobed, the lateral lobes stretching forward and coming to a bluntish point, which is slightly turned backwards, whitish outside, but internally speckled and margined with brown; the middle lobe is nearly square, whitish at the edges, but passing into rich chestnut-brown at its base, where are three elevated longitudinal streaks of a brilliant orange. *Column* slightly bent, and wingless.

Fig. 1. Column and anther. 2. Pollen-masses. 3. Front view of the labellum:—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp

Tab. 5495.

MANETTIA micans.

Showy Manettia.

Nat. Ord. Rubiaceæ—Tetrandria Monogynia.

Gen. Char. Calyx tubo turbinato, cum ovario connato; limbi superi, quadri-quinquepartiti, lobis lineari-lanceolatis, accessoriis dentibus totidem sæpius inter lobos. *Corolla* supera infundibuliformis, *tubo* tereti v. tetra-pentagono, *fauce* ampliata pilosa; *limbi* brevissime quadri-quinquefidi, *lobis* obtusis, patentibus v. revolutis. *Stamina* 4 v. 5, corollæ fauci inserta; *filamenta* filiformia, subexserta; *antheræ* ovatæ, incumbentes. *Ovarium* inferum, biloculare. *Ovula* plurima, *placentis* cylindricis e basi dissepimenti utrinque adscendentibus undique inserta, amphitropa. *Stylus* filiformis; *stigma* obtuse bilobum, subexsertum. *Capsula* membranacea, calycis limbo coronata, bilocularis, septicido-bivalvis. *Semina* plurima, compressa, peltata, imbricata, ala membranacea cincta. *Embryo* in axi albuminis carnosi orthotropus; *cotyledonibus* ovatis, subfoliaceis, radicula cylindrica infera.—Herbæ *v.* suffrutices *volubiles, in America tropica crescentes;* ramis *gracilibus;* foliis *oppositis, brevissime petiolatis v. subsessilibus, ovato-oblongis v. subcordatis;* stipulis *latis, brevibus, acutis, sæpius cum petiolorum basi subconcretis;* pedunculis *axillaribus, uni-multifloris, nudis v. medio bibracteolatis. Endl.*

Manettia *micans;* glaberrima, volubilis, foliis ovatis v. ovato-lanceolatis acuminatis, ramulis floriferis (v. paniculis foliosis) elongatis, pedunculis bracteatis 1–3-floris, stipulis latis brevibus minute ciliatis, calycis lævibus, limbi laciniis lineari-subulatis, corolla biunciali, tubo clavato-cylindraceo, limbi laciniis triangularibus patentibus.

Manettia micans. *Pœpp. et Endl. Nov. Gen. et Sp. Peruv. v.* 3. *p.* 24. *Walp. Repert. Bot. v.* 2. *p.* 508.

This fine species of *Manettia* is quite different from the Brazilian *M. cordifolia*, given at our Tab. 3202, and quite new to our collections; hitherto only described by Pœppig and Endlicher as a native of woods of Mayna, in Peru. We possess an original specimen from Pœppig, and others gathered in Peru by M'Lean and by Mathews (Tarapota, n. 1343). It has recently been imported by Messrs. Veitch, from Muna, elevation 3–4000 feet, by their South American collector, Mr. Pearce, and promises to be a most interesting stove-climber. The leafy panicles of flowers are of the brightest red-orange.

February 1st, 1865.

The plant has flowered in King's Road Nursery in December, 1864.

Walpers, in the second volume of his Repert. Bot., has most carelessly given three of the four new species of Peruvian *Manettiæ* of Pœppig as inhabitants of Brazil, whereas they are expressly stated to be Peruvian.

Descr. Apparently a vigorous climber, extending some twenty feet, according to Pœppig. The leaves on the older branches attain a length of three to three and a half inches, and are never cordate at the base; those on the flowering-branches (or rather leafy and drooping panicles) are smaller and usually broader in proportion; these leaves become *bracts* on the ultimate branchlets or peduncles. The species is by far the most beautiful known to us.

Fig. 1. Corolla, laid open. 2. Calyx and pistil. 3. Transverse section of ovary:—*magnified*.

W. Fitch, del et lith.

Vincent Brooks, Imp.

Tab. 5496.

ARISÆMA PAPILLOSUM.

Papillose Arisema.

Nat. Ord. Aroideæ.—Monœcia Monandria.

Gen. Char. *Spatha* basi convoluta, limbo fornicato v. planiusculo. *Spadix* inferne unisexualis, superne genitalibus rudimentariis interdum plane deficientibus auctus, apice exserto vel incluso nudus. *Antheræ* in filamentis distinctis verticillatæ, *loculis* discretis vel appositis, poro vel rima subtransversali dehiscentibus. *Ovaria* plurima, libera. *Ovula* 2–6, rariusve plura, in funiculis brevibus e placenta basilari recta, orthotropa. *Stylus* brevis v. subnullus; *stigma* capitato-peltatum v. depresso-hemisphæricum. *Baccæ* mono–oligospermæ. *Semina* subglobosa, *testa* coriacea v. membranacea, umbilico basilari lato. *Embryo* in axi albuminis, antitropus, extremitate caudiculari umbilico e diametro opposita.—Plantæ *perennes, in Asiæ tropicæ montibus, deinde in Asia extratropica orientali, et in America boreali indigenæ*, rhizomate *tuberoso, acaules v. foliorum petiolis basi vaginantibus cum scapo centrali concretis caulescentes;* lamina *rarissime indivisa, nunc peltatisecta, nunc pedati- v. palmatipartita;* segmentis *sessilibus v. stipitatis, integerrimis v. rarius eroso-serratis, subreticulato-venosis. Endl.*

Arisæma *papillosum;* tubere rotundato superne radiculoso, scapo solitario unifoliato vaginato, petiolo maculato, folio pedatipartito, laciniis 7–9 lanceolatis anguste acuminatis, spatha albo-vittata inferne subcylindracea, superne ovata cucullata longe acuminata stricta, spadice subincluso apice clavato nudo, inferne omnino antherifero, pistillis deficientibus papillæformibus.

Arisæma papillosum. *Schott. Steudel in Schott, Prodr. Syst. Aroid. p.* 46. *Thw. Enum. Pl. Ceyl. p.* 335.

Arisæma erubescens. *Schott. Melet. v.* 1. *p.* 17? *et in Prodr. Syst. Aroid. p.* 53?

When we described our *Arisæma Murrayi*, at Tab. 4388 of this work, we noticed that Blume, in his 'Rumphia,' had recorded thirty-one species, mostly of Asiatic origin. Schott, in his more recent 'Prodromus Systematis Aroidearum,' has increased the list to eighty-one, including certain doubtful species. The one here represented is a native of the Nilgherries, and it has lately been found by Thwaites in Ceylon, whence the tubers were kindly communicated to us. It is described as there inhabiting the Central Province of the island, at an elevation of 4000–6000 feet. The large tuberous roots are used as

a medicine by the Cingalese, and sometimes called "Snakeroot." It is by the root that they probably increase in their native regions, for in our species (*A. Murrayi*, above mentioned, and in the singular *A. præcox*, Tab. nostr. 5267, as well as in the present instance) no pistils are produced.

The specific name *papillosum* is probably given by the author on account of the papilliform abortive pistils on the spadix.

Fig. 1. Much reduced figure of an entire plant. 2. Tuber. 3. Flowers and leaf. 4. Spadix:—*natural size.* 5 and 6. Anthers,—*more or less magnified.* 7. Abortive papilliform pistils,—***magnified.***

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3

4.

1.

Vincent Brooks, Imp

Tab. 5497.

ALOCASIA Lowii; var. *picta*.

Mr. Low's Alocasia; variegated var.

Nat. Ord. Aroideæ.—Monœcia Monandria.

Gen. Char. Spathæ tubus persistens; *lamina* cucullata, cymbiformis. *Spadix* appendiculatus, spatha paulo brevior, inferne ovariis (ovaridiisque interdum) medio floribus neutris, infra apicem synandriis dense obsitus. *Ovaria* subastyla. *Stigma* depresso-hemisphæricum. *Synandria* breviter stipitata, loculis sub vertice aperientibus. *Fructus spathæ* tubo irregulariter disrupto et revoluto involucratus. *Bacca* rotundato-obovata (rubra). *Semen* depresso-hemisphæricum.—Rhizoma *plerumque elatum, arborescens, approximato-tenuiterque cicatrizatum.* Folia *juvenilis plantæ peltata, vetustioris sæpe ad petiolatum usque bipartita.* Costa *et* venæ *utrinque elevato-prominentes.* Pedunculi *breviusculi plures ex una axilla.* Spadices *suaveolentes.—Indicæ. Schott.*

Alocasia *Lowii;* acaulis; foliis longe petiolatis cordato-sagittatis acuminatis, petalis subtus purpureis, supra atro-viridibus nitidis, sinu profundo, costis costulis margineque incrassato albis, scapo basi vaginato-bracteatis superne teretibus, spatha alba tubo inflato-globosa, lamina oblongo-cymbiformi, spadice spatha breviore, ovariis subglobosis, stylo subnullo, stigmate sessili 4–5-lobato, lobis acutis patentibus.

Alocasia Lowii. *Hook. Bot. Mag. t.* 5376.

Caladium Veitchii. *Veitch's Cat.* (*Henderson*).

Var. *β. picta;* foliis supra atro-viridibus supra costis costulisque albido late albidoque marginatis venulisque albis, petiolo virido-striato, annulatisque bracteis spathaque rubro tinctis. (Tab. nostr. 5497.)

Superior as this Aroideous plant is, in point of beauty, to that we have figured at Tab. 5376, it cannot but be considered a more highly-coloured and variegated variety of it. Its genus is unquestionably the same; but whether we have done right in referring our *Alocasia Lowii* and *A. metallica* (Tab. nostr. 5190) both to the genus *Alocasia*, we must leave to the judgment of those who are more familiar with this difficult family of plants than we are ourselves. Certain it is that we have erred in considering our *metallica* to be the same as the plant of that name in Schott's 'Synopsis Aroidearum,' for the author has lately, in

his 'Prodromus Systematis Aroidearum,' abolished that species and referred it as a mere variety ("colore plus minusve atro-purpureo") of the well-known *Alocasia Indica*, Schott (*Arum Indicum* of Roxburgh). Independent of other most important characters, the stigma of our *A. metallica* (and it is the same in *A. Lowii*) is remarkable, no less for its great size in proportion to the ovary than for its being deeply divided into three to five spreading acute lobes; whereas in *A. inodora* the stigma is *depresso-hemisphæricum*, and is considered to be characteristic of the genus by that great writer on *Aroideæ*, Schott.

Let it be observed that both these splendid species we are now considering are inhabitants of the same country, Borneo, (perhaps now the finest country in the world for the researches of the botanist and the horticulturist,) and both of them were introduced by Messrs. Low, of Clapton. The plant here figured was communicated to us by Messrs. E. G. Henderson and Son, of Wellington Road, St. John's Wood, in April, 1864.

Descr. Our plant was a solitary one, not (as yet at least) growing in dense tufts, like our *Alocasia metallica*, and it possessed but one leaf; its *petiole* springs with a broad base directly from the summit of the *rhizome*, annulated at the summit, and is a foot and a half high, green, purplish upwards, ringed and spotted with darker lines, shortly sheathing at the base. The *blade* of the leaf is fifteen inches long, peltate, sagittato-ovate, or subcordate, extremely handsome in colour, very full, dark-green above, edged with a thickened whitish margin, while the costa and primary veins are enclosed as it were in broad bands of a whitish or sea-green colour, melting into the dark-green or sending out slender white anastomosing *veinlets*, while the whole underside is rich purple. The *sinus* of the lobes is very deep; the *lobes* are subparallel (not spreading), and have each a strong branch of the stout costa running down much nearer the inner than the outer margin. The *primary veins* or *costules* are remote and horizontal, but only on the *outer* side of the two branches just spoken of; on the rest of the leaf they are on both sides and nearly opposite. *Scape* from the short sheath at the base of the petiole, and very much shorter than it, pale-green speckled with dark purple, and clothed, for nearly its whole length, with sheathing pale-coloured *bracts*, elegantly lined and dotted with red. *Spatha* four and a half inches long, globose and green at the base, the rest cucullato-cymbiform, yellowish-white tinged with red. *Spadix* sessile or nearly so, the lowest portion clothed with pistils. *Ovary* globose. *Style* very short: *stigma* very large, of four to five star-like rays; between these and the anthers is a contraction occupied by *glands*, of which the inferior are probably *abortive pistils*, whilst the upper ones seem to pass gradually

into the *anthers*, which occupy the greater portion of the centre of the spadix, and are thick and fleshy, discoid, with six to eight oblong cells at the sides, opening by pores at the apex or margin of the crenated disk. The apex of the *spadix* (or appendage) is a cylindrical fleshy mass, longitudinally wrinkled.

Fig. 1. Spadix,—*natural size*. 2. Pistils. 3. Glands seen on the spadix, between the pistils and the anthers. 4. Anthers:—*magnified*.

W. Fitch, del et lith.

Vincent Brooks Imp.

Tab. 5498.

Lælia præstans.

Admirable Lælia.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 5144.)

Lælia *præstans;* pseudobulbis stipitatis fusiformibus costatis monophyllis, foliis oblongis acutis, floribus solitariis, bracteis squamæformibus abbreviatis, sepalis oblongis acutis, petalis multo latioribus ovato-oblongis obtuse acutis, labello libero trilobo, circa columnam omnino convoluto carnoso, carinis 4 vel 6 per discum, columnâ crassâ superne dilatatâ, auriculis posticis apicularibus sibi incumbentibus. *Ex Reichenbach.*

Lælia præstans. *Reichen. fil. in Koch, Berlin. Allgem. Gartenzeitung*, 1857, *v.* 42. *p.* 336.

Lælia præstans. *Lindl. Gard. Chron.* 1859, *p.* 240.

Bletia præstans. *Reich. fil. Xenia Orch. t.* 114.

Cattleya pumila, *var.* major. *Lemaire, Illustration Horticole, v.* 6. 1859, *p.* 193.

At first sight this rare and beautiful plant might be mistaken for a large variety of another Lælia, with which we have been long familiar under the various names of *Cattleya pumila*, *C. marginata*, or *C. Pinelli*, but it is in reality perfectly distinct. Professor Reichenbach was the first to distinguish it, and he has given a most faithful representation in one of the Plates of his 'Xenia Orchidacea,' his specimens having been obtained from the rich collection of Consul Schiller, of Hamburg. In this country the plant is still extremely rare, and I am not aware of its having bloomed except in the collections of Mr. Day and Mr. Marshall. It was from a plant that flowered finely in the garden of the latter gentleman that the accompanying figure was prepared.

L. præstans comes from the island of St. Catherine, and should be treated like other Brazilian Lælias and Cattleyas from the same locality; but it prefers a block of hard wood to a pot, and it should always be placed near the glass. Its flowering season is November, and the blossoms are exceedingly durable.—*J. B.*

Descr. *Pseudobulbous stems* rather club-shaped, three or four

inches high, shorter than the leaves. *Leaves*, one on each stem, not more than six inches long, fleshy, oblong, sharp-pointed. *Peduncle* short, one-flowered. *Flowers* larger and more fleshy than those of *L. pumila*, and more horizontally spread out. *Bracts* scale-like, short. *Sepals* oblong-acute, much narrower than the ovate-oblong *petals*, both being of a beautiful rosy-lilac. *Lip* free, three-lobed in front, wrapped entirely round the column, very stiff and fleshy, and incapable of being spread out flat unless forcibly bisected down the middle; along its disk run four or six elevated lines; externally it is almost of the same colour as the petals, but its throat is yellow, and its upper portion of a rich purple. *Column* thick and stout, spreading out above, and carrying two auricles, that rest upon each other.

Fig. 1. Column. 2, 3. Sections of the lip, showing the column:—*magnified*.

W. Fitch, del. et lith

Vincent Brooks, Imp

Tab. 5499.

IRESINE Herbstii.

Mr. Herbst's Iresine.

Nat. Ord. Amaranthaceæ.—Diœcia Pentandria.

Gen. Char. Flores dioici vel hermaphroditi, raro polygamo-monoici, tribracteati. *Calyx* 5-sepalus, *sepalis* subæqualibus erectis glabris. *Stamina* 5, rarissime pauciora, basi in cupulam connata. *Filamenta* filiformia. *Staminodia* nulla. *Antheræ* uniloculares, ovatæ. *Ovarium* uniloculare, uniovulatum. *Stylus* brevis. *Stigmata* 2–3, teretiuscula. *Fructus* (*utriculus*) ovato-orbicularis, evalvis, monospermus, calyce inclusus. *Semen* verticale, sublenticulare; *testa* crustacea. *Albumen* centrale, farinaceum. *Embryo* annularis, periphericus, *radicula* ascendente.—Herbæ *raro* suffrutices, *in America tropica et subtropica obvia, in Nova-Hollandia intertropica rara, flaccida, glabriuscula vel glabra.* Caules *erecti vel procumbentes, ramosi.* Folia *opposita, petiolata.* Flores *minuti, dense spicato-capitati vel laxe paniculati, plerique nitore metallico splendentes.* Bracteæ *concavæ; inferior persistens.* Pubes *pauca, simplex. Moquin.*

Iresine *Herbstii;* herbacea, erecta, pilosiuscula, demum glaberrima, tota (floribus exceptis) pulcherrime purpureo-rubra atro-violaceo picta, caule angulato ramoso, foliis sublonge petiolatis oppositis cordato-rotundatis concavis apice profunde emarginatis subbilobis, paniculis copiosis terminalibus viridi-stramineis subfoliosis subnutantibus.

Iresine Herbstii. *Hook. in Gard. Chron. July 9th*, 1864, *p.* 654, *and December 17th*, 1864. *Dombr. Floral Mag. t.* 219 *(foliage only).*

Achyranthes? Verschaffeltii. *Ch. Lemaire in Illustr. Horticole, Aug.* 1864, *t.* 409 (*foliage* only).

Amidst the many coloured-leaved plants which have been of late introduced into ornamental gardening, few are more striking than the one we now represent, and few have excited more interest among horticulturists, as may be inferred from the fact of its having been figured in two horticultural works before the flowers were known to the authors, and a first-class certificate was awarded to Mr. Herbst, of the Kew Nursery, Richmond, who introduced it to this country from the river Plate, South Brazil. Mr. Lemaire gives Pará, in North Brazil, at the mouth of the Amazon, as its native country, whilst I myself possess a fine native specimen, with all the characters of the cultivated one, from Moyabamba, in the Andes of Peru, situated on a small

river of the same name, not far from the sources of the Amazon, gathered by Mr. Mathews (his n. 1616). It is not a little remarkable, considering how distinct these three localities are from each other, and well as they have been explored by many and most able botanists, it should never have found a describer till now that it has thus come to our knowledge through our Floral Gardens. Martius, who made the *Amaranthaceæ* of Brazil his special study, and Spruce, who was indefatigable in his researches upon the Amazon river and its tributaries, seem never to have met with it;* and the specimens in my Herbarium, where it has been for these thirty years seem wholly to have escaped the notice of the author of the *Amaranthaceæ* in De Candolle's 'Prodromus,' who had access to all of the order in our possession. It is therefore not without reason that we dedicate the plant to Mr. Herbst. The flowering specimen was, with many others, reared by him in the autumn and winter of 1864–5.

As the *Iresine Herbstii* is likely to become of great interest as a bedding-out plant, we shall subjoin an extract from Mr. Herbst's communication to the 'Floral Magazine:'—"It attains a height of from twelve to eighteen inches, and is without any trouble grown into a perfect specimen of the most globular form, as it produces a branch from the axil of every leaf. In a house too warm and close it no doubt grows taller, but even the stopping of the terminal shoot would make it branch very easily. The stem and branches are of a most beautiful, almost transparent carmine, while the leaf itself, strongly bilobed, is of a purplish-crimson underneath, dark maroon on its upper side, with its many broad ribs of a very prominent carmine. There is not a green spot on the whole plant, and whether placed in the shade or in the most brilliant sunshine, it produces a most admirable contrast with plants of a lighter colour. It has neither the gloomy appearance of the *Perilla* nor the woolly leaf of the *Coleus*, and is by no means so susceptible of cold and dampness combined as this latter plant. Another advantage it has is, that it does not flower either out-of-doors or in a warm greenhouse, where I have introduced several strong plants on purpose to induce it to flower, but without success." Since that time, however, Mr. Herbst has, by great care, caused plants to produce the panicles of flowers, which to a botanical eye detract in no way from the charm of the plant, as may be seen by our figure.

Fig. 1. Female flower. 2. The same, with the perianth removed:—*magnified.*

* See a note on this subject under our next Tab. (5500).

2.

3.

4.

1.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5500.

AGLAONEMA MARANTÆFOLIUM; var. *foliis maculatis.*

Maranta-leaved Aglaonema; var. with variegated leaves.

Nat. Ord. Aroideæ.—Monœcia Monandria.

Gen. Char. Spatha brevis, tubo indistincto, ex toto hians, tandem a basi decidua? *Spadix* stipitatus. *Ovaria* pauca, ovulo basi fixo, subsessili, *stigmate* magno infundifuliformi-discoideo. *Antheræ* vertice quadriporosæ, *locellis* basi sejunctis, apice conniventibus, poris tandem confluentibus aperientes. *Bacca* ellipsoidea. *Semen* ellipsoideum, germinatione admotiva.—Frutices *erecti*. Caudex *dense annulato-cicatrizatus*. Petiolus *brevis*, *vaginatus*. Lamina *foliorum oblonga*, *pinnativenia*, costa *supra canaliculata*, venis *in margine longe procurrentibus*, *superioribus apicibus arcuatim conniventibus*. Spadix *odoratus*. Fructus *e baccis glomeratis*. *Schott.*

Aglaonema *marantæfolium;* caudice tereti annulato demum elongato apice folioso, foliis spithamæis oblongo-acuminatis basi obtusis inæquilateralibus costatis parallelim subobscure venosis petiolatis, petiolis folio sublongioribus supra medium vaginantibus, scapis petiolo paullo longioribus teretibus, spatha 3–4-unciali erecto pallide flavo-virescente cymbiformi apice subito subulato-acuminato basi solummodo convoluto spadice longitudine fere spathæ, brevi-stipitato, floribus inferioribus fœmineis, reliquis usque ad apicem spadicis masculis.

Aglaonema marantæfolium. *Blume, Rumphia, v.* 1. *p.* 13. *t.* 66. *Schott, Prodr. Syst. Aroidearum, p.* 303. *Kth. Enum. Pl. v.* 3. *p.* 55.

Calla oblongifolia. *Roxb. Fl. Ind. v.* 3. *p.* 516. *Wight, Ic. Pl. Ind. Or. v.* 3. *t.* 806.

Appendix erecta. *Rumph. Herb. Amb. v.* 5. *p.* 487. *t.* 182. *f.* 2.

Var. *maculatum;* foliis maculis pallidis variegatis. (Tab. nostr. 5500.)

Calla picta. *Roxb. Fl. Ind. v.* 3. *p.* 516. *Wight, Ic. Pl. Ind. Or. v.* 3. *t.* 804.

Aglaonema commutatum. *Schott, Synops. Aroid. p.* 123; *Prodr. p.* 304.

A native of the Malay Islands, and probably not uncommon there, especially in the Moluccas, figured (but upon a reduced size) by old Rumphius, and more recently and more accurately by Dr. Wight, and by the second Rumphius (Blume). The whole-coloured variety has been long cultivated in our gardens, but the spotted-leaved variety has only recently been imported in Euro-

pean gardens from Manilla by Messrs. Veitch and Son. We think it more than probable that this state of the plant is the *A. commutatum* of Schott, Synops. p. 123, for his description sufficiently agrees with our plant, as does the analysis of the fructification in his fine work on the 'Genera Aroidearum.' The difference of the venation, on which he lays so much stress, we find to be variable on the same plant, and even on the same leaf. The plant is a graceful one, and in age the stem-like caudex increases considerably in length.

It has been generally considered that plants with gay-coloured or variegated foliage are pre-eminently natives of the Malay Islands and that region, but it will probably be found that those of tropical America are equally deserving of cultivation. On inquiring of my friend Mr. Spruce if he did not meet at Pará or on the Moyobansha with the fine-coloured *Iresine Herbstii*, figured in our present number of the Magazine, he says, "I have some recollection of seeing an *Amaranthacea* very like it, but I did not gather it, because it was out of flower;" and he adds, "You know that when I left England in 1849 nobody cared for painted-leaved plants, and it was not till I got to the western side of the Andes that I learnt there was such a rage for them. I then remembered how many striped and spotted leaves I had seen of *Scitamineæ*, *Aroideæ*, *Cissi*, etc., in the Amazon Valley, and had admired their beauty, but never dreamt that anybody would care for them in England. For the same reason Martius might easily pass over a painted-leaved *Amaranth* in South Brazil, where you say he ought to have seen it."

Fig. 1. Male flower, a stamen. 2. Female flower, pistil, which is quite goblet-shaped. 3. Transverse section of the ovary. 4. Vertical section of the same, with a solitary ovule in the cell:—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp

Tab. 5501.

ACROPERA Armeniaca.

Apricot-coloured Acropera.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 3563.)

Acropera *Armeniaca;* racemo laxo multifloro, sepalis apiculatis lateralibus obliquis apice rotundatis, petalis liberis columnâ duplo brevioribus, labello calceato carnoso apice libere ovato plano acuminato intus pone basin cristâ tuberculatâ aucto. *Lindl. l. c.*

Acropera Armeniaca. *Lind. in Paxt. Flow. Gard. cum xylo. v.* 1. *p.* 140.

Although introduced to our collections about the year 1850, no coloured representation has yet appeared of this beautiful plant, which is by far the most ornamental species of the singular genus to which it belongs. It was discovered by Warszewicz in Nicaragua, and was probably distributed under the hammer of Mr. Stevens soon after its arrival in this country, but it is still exceedingly rare. Indeed, but for the care bestowed upon the plant at Oulton Park, where it originally flowered, and from whence, through the kindness of Sir Philip Egerton, my own specimens were derived, it would in all probability ere this have been lost to our gardens. Nothing can be simpler than its cultivation, but it requires a pot and a fair amount of heat, and, being a rapid grower, it should be broken up, like the *Gongoras* and *Stanhopeas*, every second or third year. It flowers abundantly during the summer months. There is a great family likeness among the Acroperas, and therefore, although botanically distinct, it is not desirable to attempt to cultivate them all. Where a selection is made, *A. Batemanni* and *A. Armeniaca* are decidedly the best, and of these two the last is brighter in its colouring, and larger and handsomer in all its parts.—*J. B.*

Fig. 1. Side view of a flower. 2. Front view of a column. 3. Front view of the labellum :—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5502.

BILLBERGIA olens.

Putrid-smelling Billbergia.

= NEOREGELIA CAROLINAE fide Lod Cutak

Nat. Ord. Bromeliaceæ.—Hexandria Monogynia.

Gen. Char. Perigonii superi sexpartiti *laciniæ exteriores* calycinæ, æquales, ecarinatæ, erectæ, v. spiraliter convolutæ, aristatæ vel muticæ, apice hinc oblique dilatatæ, *interiores* petaloideæ, exterioribus multo longiores, apice patentes vel erectæ, intus basi squamosæ v. bicristatæ, rarius nudæ. *Stamina* 6, epigyna; *filamenta* filiformia, tria plerumque perigonii laciniis interioribus adnata; *antheræ* ovatæ, dorso affixæ, incumbentes vel suberectæ. *Ovarium* inferum, triloculare. *Ovula* plurima e loculorum angulo centrali pendula, anatropa. *Stylus* filiformis; *stigmata* 3, petaloidea, convoluta, v. linearia crispa. *Bacca* subglobosa, trilocularis. *Semina* plura, nuda v. umbilicum filo gracili appendiculata.—Herbæ *Americanæ tropicæ, sæpius super arborum truncis pseudoparasiticæ, exscapæ vel scapigeræ*, foliis *ligulatis, linearibus vel ensiformibus, ut plurimum spinuloso-serratis*, floribus *spicatis paniculatis vel racemoso-paniculatis*, spathis *floralibus nunc nullis, nunc parvis v. amplis, coloratis. Endl.*

Billbergia *olens;* caule inclinato brevi cicatricato, foliis numerosis terminalibus erecto-patentibus subpedalibus ligulatis canaliculatis spinuloso-serratis basi arcte imbricatis subventricosis apice mucronato-pungentibus, floralibus multo brevioribus erectis coccineis, spica oblonga sessili foliis floralibus multo breviore, bracteata, bracteis late ovatis acuminatis arcte imbricatis pallide viridibus rubro-tinctis, corollis paululum exsertis intense purpureis, apice subpatentibus, unguibus subbilamellatis.

This, to us, previously unknown Bromeliaceous plant was received at Kew from Dr. Regel, of the Imperial Botanic Garden of St. Petersburg, in 1856, and produced its rich purple, but very much concealed flowers and brilliantly-coloured floral leaves, in a warm stove the following year. It seems quite to accord in habit and in generic character with the *Billbergia cruenta* of Graham, in Bot. Mag. t. 2892, but is far more beautiful in the colour of the corollas, and still more of the floral leaves. It is to be regretted that no locality has been given with the plant, but no doubt it is a native of tropical America, where the species of the family to which it belongs are great ornaments to the trunks of the forest trees, and where they are often intermixed

with equally beautiful Orchidaceous plants. The present species has many points in common with Jacquin's *Tillandsia ligulata* (native of Martinique), of his Select. Stirp. American. p. 92. t. 62; still more with the coloured figure of the same plant in the Nuremberg edition of that work, entitled 'Amerikanische Gewächse nach Linneischer Ordnung,' v. 2. t. 101, which plant Dr. Lindley refers to Plumier's and his genus *Caraguata;* and I should perhaps have referred it to that species, but that Jacquin says the flowers are white, whereas here they are a rich purple. It is the old and decaying flowers only which emit the odour that has suggested the specific name.

Descr. Our plants grow in a fasciculated manner; the very short *stem* is thicker than one's finger, more or less scarred by the falling away of the lowest radical foliage. *Leaves* copious, imbricated, rather full green, glabrous, about a foot long, an inch or more wide, erecto-patent, ligulate, channelled, spinuloso-serrate at the margin, the apex sharply spinoso-acuminate, very pungent; the base sheathing and subventricose. *Spike* terminal, sessile, three inches long, amentiform, terminal, but so much shorter than the outer foliage, that it could not easily be seen but for the presence of the richly-coloured, erect *floral leaves*, longer, indeed, than the spike, but much shorter than the outer or cauline leaves. *Bracts* large, closely imbricated, greenish-white, tinged with reddish, very broad-ovate, almost sheathing. *Flowers* mostly concealed by the *bracts;* the apex of the corolla only exserted. *Calyx* of three, sheathing, elongated *sepals; petals* with long claws, the spreading dark-purple limbs only exserted, the claws without scales, but with indistinct laminæ. *Stamens* included, inserted near the middle of the claws. *Filament* very short; *anther* sagittate, pale-yellow. *Ovary* oblong; *style* filiform, as long as the claws of the petals; *stigmas* three, spirally twisted.

Fig. 1. Flower. 2. Petal and a stamen. 3. Pistil:—*magnified.* The two other figures (*natural size*) represent a flowering plant; the spike of flowers covered by the foliage; and the plant cut through vertically, showing the position of the flowering-spike in the centre of the brilliantly-coloured floral leaves.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5503.

ASTELIA Solandri, ♂.

Dr. Solander's Astelia, ♂.

Nat. Ord. Liliaceæ.—Diœcia Hexandria.

Gen. Char. Flores abortu polygamo-dioici. *Perigonium* sexpartitum, semiglumaceum, persistens. *Stamina* imo perigonio inserta. *Ovarium* triloculare, v. dissepimentis incompletis uniloculare, placentis parietalibus tribus. *Ovula* plurima. *Stylus* nullus; *stigmata* 3, obtusa. *Bacca* uni-trilocularis, polysperma. —Herbæ, *in insula Diemen, in Nova Zelandia, in America antarctica et in insulis Sandwich observatæ, habitu fere* Tillandsiæ, *et sæpius pariter in arborum truncis vivis vel emortuis parasiticæ;* radice *fibrosa;* foliis *radicalibus imbricatis, lanceolato-linearibus v. ensiformibus, carinatis utrinque vel subtus appresse villosis, basi sericeo-lanatis;* caule *nullo v. brevi planifolio;* floribus *racemosis v. paniculatis, rariusve subsolitariis;* pedicellis *haud articulatis, unibracteatis;* floribus *extus sericeis. Endl.*

Astelia *Solandri;* foliis e basi lata densissime villosa longe lineari-subulatis 2–3-costatis, paniculæ ramis brevibus v. valde elongatis, *masc.* densifloris, floribus brevipedicellatis, perianthii profunde 6-partiti laciniis membranaceis linearibus, filamentis elongatis, antheris lineari-elongatis, *fœm.* paniculæ ramis densifloris, floribus minoribus tubo hemisphærico, limbi lobis 6 reflexis, staminibus sterilibus ore perianthii insertis, ovario globoso trilocular, ovulis placentis axillaribus affixis, stylo subelongato. *Hook. fil.*

Astelia Solandri. *A. Cunn. Prodr. Fl. Nov. Zel. in Hook. Comp. to Bot. Mag. v. 2. p. 374. Hook. fil. Fl. N. Zeal. v. 1. p. 260, et in Handb. of N. Zeal. Fl. p. 284.*

Astelia furfuracea. *Banks et Sol. mss. cum ic.*

The genus *Astelia* of Banks and Solander is a very peculiar one, native exclusively of the southern hemisphere, which Endlicher places in a group of *Junceæ* he calls "Astelieæ," while Dr. Hooker refers it to *Liliaceæ*, near *Phormium* and *Cordyline*, and of which five species are recorded as natives of New Zealand, one in Oahu, one in Faegia, and another in Tasmania. "All," Dr. Hooker observes, "are densely-tufted herbs, with a short, creeping rhizome, with very long leaves, more or less covered with shaggy wool or silvery hairs. The large kinds form a conspicuous feature on the lofty trees of New Zealand forests, where, growing epiphytically on branches, they resemble

gigantic birds'-nests. The smaller kinds inhabit marshes. We have already published one species from New Zealand at Tab. 5175 of this Magazine, and we have now the pleasure of figuring a second, also from New Zealand, where it is common on trunks of trees in the northern and middle islands, for which our gardens are indebted to the late lamented Dr. Sinclair. It has flowered copiously with us in a cool greenhouse.

Descr. Dr. Hooker gives the following account, drawn up from living plants in New Zealand:—"A very large species. *Leaves* two feet long, spreading and recurved, three inches broad at the base, and there clothed with dense, snow-white, silky, villous wool, glabrous above, silky below, with three strong nerves. *Male: Scape* stout. *Panicle* six to eighteen inches long; *branches*, with the flowers included, one inch across. *Flowers* very crowded, closely pedicelled. *Perianth* very large, half an inch long, membranous; *segments* linear, obtuse, silky externally. *Filaments* half an inch long; *anthers* linear-oblong. *Female: Scape* stout, curved. *Panicle* with very long, slender (rarely short, stout) *branches*, eight to twelve inches long. *Flowers* close-set, fascicled or whorled; *pedicels* slender, half an inch long. *Perianth* much smaller and more scariose than on the male; *tube* hemispheric; *segments* recurved. *Ovary* globose, three-celled; *style* straight." Our principal figure represents the male plant.

Fig. 1. Male flower. 2. Abortive pistil. 3. The same, cut through transversely; the cells are filled with gelatinous fluid only:—*magnified*.

W Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5504.

CATTLEYA QUADRICOLOR.

Four-coloured Cattleya.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 5449.)

Cattleya *quadricolor;* caulibus angustis compressis monophyllis, pedunculis 1–2-floris, sepalis oblongo-lanceolatis obtusis, petalis spathulatis 3-plo latioribus, labello indiviso cucullato haud dilatato, margine anteriore subcrispo. *Bateman, Gard. Chron.* 1864, *p.* 269.

Cattleya quadricolor. *Lindl. mss.*

Cattleya quadricolor. *Batem. in Gard. Chron. l. c.*

This beautiful Cattleya was sent many years ago to Mr. Rucker from New Granada, by one of his correspondents who met with a solitary plant of it on the upper waters of the Rio Magdalena. It soon flowered in Mr. Rucker's collection, and the specimens then produced were forwarded to Dr. Lindley who, being satisfied that it was a new species, gave it the appropriate name of *C. quadricolor*, in allusion to the four colours, white, yellow, lilac, and purple, that are observable in its blossoms. The latter are produced in the winter months, and continue in perfection a long time, but they do not spread themselves out so freely as those of most other Cattleyas do.

When I first examined the flowers of *C. quadricolor* I felt no doubt that Dr. Lindley was right in regarding it as new; and even to the present time I have seen no Cattleya with such closely imbricated white flowers, nor are its long upright narrow pseudobulbous stems to be matched among the extensive importations that the Horticultural Society, the Messrs. Low, and others have received from the country in which it was originally found. Yet this very circumstance suggests a doubt as to whether it may not ultimately prove to be what botanists call a *peloria* (*i.e.* a monster) of some other species, for if it were really an independent form, it seems scarcely credible that none of the collectors now in New Granada should have met with it.

April 1st, 1865.

But even if admitted to be a *peloria*, to what species must it be referred? The answer to this question opens a rather extensive field of inquiry, and implicates a large number of reputed species, including *C. labiata*, *C. Mossiæ*, *C. pallida*, *C. Warszewiczii*, *C. Trianæi*, and *C. Wageneri*, which are found distributed over a vast range of territory extending from the heart of Mexico to the capital of Brazil. The first on the list, *C. labiata*, was found some thirty or forty years ago—where alas! it is not to be found now—on the well-known Organ Mountains in the vicinity of Rio Janeiro. The next, *C. Mossiæ*, was found on the Spanish main, and as it always bloomed in the spring or summer, and had never more than two or three flowers on a scape, it was long considered distinct from *C. labiata*, which had invariably bloomed in November, and produced double the number of flowers. But last June I received luxuriant specimens of what was undoubtedly *C. labiata* from the garden of the Bishop of Winchester, while plants have been imported of *C. Mossiæ* producing four to six flowers on a scape, and thus the most marked distinctions between the two supposed species have entirely disappeared. Of *C. pallida* a solitary plant was found by Hartweg on his way to Oaxaca; this has recently flowered at Knypersley, and proves to be, as Reichenbach suspected, identical with the *C. Warszewiczii delicata* of Mr. Warner, which was found by the traveller whose name it bears in the interior of New Granada. This again is indistinguishable, except in colour, from *C. Wageneri* of the same country, and which has very naturally been regarded as nothing but a white variety of *C. Mossiæ*. Finally Mr. Weir, the zealous collector of the Horticultural Society, mentions in one of his letters from Bogotá, that he met with innumerable varieties—white, lilac, and rose—of a beautiful Cattleya that he gathered in that neighbourhood, and the dried specimens of which exactly resemble the flowers of *C. labiata*, *C. Trianæi*, and *C. Warszewiczii*. From a collation of the facts before us, there would seem to be at least a high probability that all the six so-called species above referred to are in reality varieties of a single form that spreads itself—like *Epidendrum ciliare* and *E. cochleatum*—over the whole Orchid-growing region of tropical America. Whether or no *C. quadricolor* itself will have to be added to the list of cancelled species, is a question that time only can determine. Meanwhile the hybridizer plies his trade, and will speedily render "worse confounded" that "confusion" which is sufficiently perplexing, even as it comes to us from the hand of nature.—*J. B.*

Descr. *Pseudobulbous stems* from six inches to a foot long, perfectly upright, narrower and more compressed than in other allied species. *Leaves*, one on each stem, narrow, strap-shaped,

acute, usually about ten inches long. *Peduncle* issuing from a large spathe, and bearing one or two flowers about four inches across, but not so much spread open as is usual in this genus. *Sepals* pure white, oblong-lanceolate, obtuse. *Petals* slightly spathulate, three times wider than the sepals, and, like them, of the purest white. *Lip* undivided, cucullate, but not much opened out at the apex, which is somewhat curled, and of a deep purple; below this there is a band of white, then streaks of yellow, the residue being rosy-lilac. *Column* entirely hidden by the lip.

Fig. 1. Side view of column,—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp

Tab. 5505.

MASDEVALLIA Tovarensis.

The Tovar Masdevallia.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 5476.)

Masdevallia *Tovarensis;* foliis oblongis subspathulatis apice rotundatis obsolete tridentatis pedunculo ancipiti bifloro subæqualibus, bracteis membranaceis cucullatis, sepalis connatis, supremo anguste lanceolato in aristam longam producto, lateralibus ovatis multo ultra connatis dein liberis obtusis, aristâ brevi in apice, petalis oblongis subacutis incurvis, labello oblongo, medio margine utrinque emarginato acuto, nervis 3 prominulis lateralibus elevatis cristatis, androclinii margine dentato. *Reichenbach fil. quibusdam mutatis.*

Masdevallia Tovarensis. *Reich. fil. in Bonplandia, v.* 3. *p.* 24; *v.* 2. *p.* 23.

Masdevallia candida. *Klotzsch, Karsten.*

The genus Masdevallia was specially selected by Dr. Lindley, when announcing the preparation of his 'Folia Orchidacea,' to illustrate the astonishing progress that had been made in our knowledge of Orchids since the publication, a quarter of a century before, of his 'Genera and Species.' In the latter work only three Masdevallias were described, though the number had risen to nearly forty at the time above referred to, and it has been largely augmented since then. But however plentiful the Masdevallias in their native wilds, they have made their way slowly and reluctantly to the gardens of Europe, in which scarcely half-a-dozen—and these among the most insignificant of the race—have as yet produced flowers. The species, however, that is represented in the accompanying Plate will convey a more adequate notion of the attractiveness of its family, and may well challenge the attention, not of the botanist merely, but of every cultivator of rare and beautiful plants.

Masdevallia Tovarensis, as its name implies, is a native of Tovar, in Columbia, where it was discovered at an elevation of

several thousand feet, and sent to Germany many years ago, and it was from the latter country that Mr. Rucker received the plant from which, in November last, the present figure was obtained. In Mr. Rucker's collection it passed under the name of *M. candida*, which, as Reichenbach has correctly pointed out, was erroneously given by the late Dr. Klotzsch to a plant that had already been described as *M. Tovarensis*. To add to the confusion, there exists in the collection of Lady Dorothy Nevill a plant under the name of *M. Tovarensis*, which is altogether different from the species now described, and of which I hope to give some account at a future time.

Nearly all the Masdevallias may be classed among cool, and many of the species among the *very coolest* Orchids, being chiefly found at a great elevation on the Andes of New Granada and Peru. Nothing can be easier than their cultivation, if the conditions of low temperature and almost constant humidity to which they are accustomed in their native habitats, be duly imitated. It is hoped that collectors may be induced to make the introduction of a number of these lovely plants a special object, for a group of twenty or thirty kinds might be grown in a space that would be insufficient to accommodate a single specimen of some of the larger Orchids, and with nearly half the amount of heat. Among the species particularly worth searching for, I would notice *M. rosea*, that covers the slopes of the Popayan Alps with flowers larger than those of *M. candida*, and of the loveliest purple-rose colour; *M. racemosa*, from the same country, with spikes a foot long, of flowers larger than any Burlingtonia, and of the most vivid scarlet; and *M. elephanticeps*, from New Granada, with gold and purple blossoms six inches long, and the arrangement of which vindicates the propriety of the singular name given to it by Professor Reichenbach (in whose 'Xenia' it is admirably figured), for it offers an almost exact similitude to an elephant's head, with tusks and trunk complete!

Another species, *M. coccinea*, a worthy rival to the best of the above, is happily already among us in a living state, having been brought over in a cigar-box by Warszewicz, and thus saved from the risk of decay which delicate plants incur if huddled together with those that are more robust. A neglect of this precaution caused the death of many splendid masses of *M. elephanticeps* that were imported by Messrs. Low and others during the last year.—*J. B.*

Descr. *Leaves* about a span long, oblong, somewhat spathulate, obscurely toothed at their extremities, nearly the same length as the upright two-edged *peduncle*. *Bracts* membranous, cucullate, enveloping the lower portion of the petiole. *Flowers*

two on each peduncle, continuing long in perfection, and of the purest white. *Sepals*, as is usual in this genus, coalesce at the base, and form a sort of cup; the upper one lanceolate, and prolonged for an inch into a slender awn; the lateral sepals wider, and joined together much further than the upper one, and ending in short, slightly decurved awns. *Petals* oblong, slightly sharp-pointed, curved inwards about the length of the lip. *Lip* very small, oblong, acute, emarginate about the middle on either side, with three nerves down its centre, of which the two lateral ones are somewhat elevated.

Fig. 1. Side view of ovary, lip, and petals. 2. Side view of column. 3. Lip. 4. Pollen-masses :—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5506.

MONOCHÆTUM DICRANANTHERUM.

Dicranantherous Monochætum.

Nat. Ord. Melastomaceæ.—Octandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 5341.)

Monochætum *dicranantherum;* frutex 1–2-pedalis ubique hispido-pilosus valde ramosus, ramis tetragonis rubris patenti-purpureo-pilosis, foliis lato-lanceolatis acuminatis basi acutis brevipetiolatis quinquenerviis subtus pallidis, pilis utrinque appressis, paniculis secundariis copiosis in unam majorem parce foliosam digestis, floribus mediocribus diametro 9–10-lineas, calycis tubo ovato lævi patenti-piloso, limbo 4-lobo, lobis ovatis acuminatis longitudine fere tubi, patentibus, extus pilosis, petalis subrotundis pulcherrime roseis, staminibus secundis alternatim majoribus, *antheris* deflexis, subulatis, calcare lineari-subulato erecto incurvo, ovario basi adhærenti 4-costato dein libero, apice plurisetoso, stylo flexuoso, stigmate punctiformi.

Monochætum dicranantherum. *Naud. in Triana, Fl. Nov. Grenad. v.* 2. *ined., et in Hook. Herb.*

Monochætum Hartwegianum. *Naud. Melast. Monogr. p.* 253.

Arthrostemma (Monochætum) dicranantherum. *De Cand. Prodr. v.* 3. *p.* 138 (*fide Naudin*).

Rhexia dicrananthera. *Ruiz et Pavon, v.* 3. *p.* 84. *t.* 320. *f.* a. (*fide De Cand. et Naudin*).

Arthrostemma multiflorum. *Don, Mem. Wern. Soc. v.* 4. *p.* 299.

On the genus *Monochætum* of Naudin its author remarks: "Flore 4-mero, habitu specierum et præsertim singulari inter *Melastomæas* hujus tribus staminum fabrica, facile dignoscendum et omnino naturale. *Species inter se difficilius distinguendæ.*" At the time of the publication of his valuable Monograph of *Melastomaceæ*, M. Naudin did not seem to be acquainted with this species; but we have received authentic specimens of what he considers to be it from M. Triana, from Granada, and this we have no difficulty in determining to be the same specifically as ours, and of which we have copious native specimens from Professor Jameson, of Quito, gathered in

the lofty mountains of Ecuador (alt. 7–9000 feet), and from Mr. M'Lean, from Vita, Peru, and from Hartweg, New Granada, n. 1006. De Candolle, however, and Naudin consider it to be identical with the *Rhexia dicrananthera*, Ruiz and Pavon, l. c., which is the authority for the *Arthrostemma dicrananthera* of De Candolle. It may be so, but Ruiz and Pavon's figure represents a more sturdy plant, with much smaller leaves, exactly and broadly ovate, obtuse at the base ("ut plurimum pollicaria, latitudine semipollicaria"), which leads me to doubt of the correctness of that reference.

It is an excessively pretty plant, deserving a place in every warm greenhouse. Our plants were reared from seed received from Professor Jameson by Isaac Anderson, Esq., of Hay Lodge, Trinity, Edinburgh, a most successful cultivator of plants, especially those which he raises from seeds sent him by Professor Jameson, from the lofty Andes of South America. The species flowered abundantly with us in October, 1864.

Descr. A small *shrub*, which with us has attained a height of a foot to eighteen inches, erect, much branched, especially upwards, everywhere clothed with purple-brown setaceous hairs, appressed upon the foliage, generally spreading on the rest of the plant. *Leaves* always opposite, shortly petiolate, one to two and a half inches long, firm, rigid, bright-green above, pale beneath, elliptico-lanceolate, obtusely acuminate, acute at the base, five-nerved, nerves impressed above, prominent beneath. The upper half of the plant, or more, consists of a series of small flowering *panicles*, collectively forming an oblong, multiflorous, large *panicle*, mixed with a few leaves, which, upwards, become small, narrow-lanceolate *bracts*. *Tube* of the hispid *calyx* ovate; *limb* rather shorter than the tube, five-lobed; *lobes* four, spreading, ovate, acuminate. *Stamens* eight, all inclined to one side, alternately a little larger. *Filaments* subulate. *Anther* suddenly deflexed, as long as filament, subulate, opening by a solitary pore; *spur* erect, subulate, nearly as long as the anther. The lesser stamens seem to be sometimes abortive; the spur the same as in the perfect stamens, but smaller. *Petals* four, subrotund, bright rose-colour. *Ovary* ovate, with the base only adnate with the inner tube of the calyx, by means of four elevated ridges. The rest free, setose on the summit, at the base of the style. *Style* longer than the pistil, flexuose. *Stigma* a mere point.

Fig. 1. Flower. 2. Petal. 3. Larger; and 4. Smaller stamen:—*all magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5507.

ARISÆMA Wightii.

Dr. Wight's Arisæma.

Nat. Ord. Aroideæ.—Monœcia Monandria.

Gen. Char. (*Vide supra*, Tab. 5496.)

Arisæma *Wightii;* tubere rotundato superne fibroso, scapo solitario uni-bifoliato, infra petiolis vaginisque maculatis, foliolis quinque-foliolatis, foliolis radiatis elliptico-lanceolatis cuspidato-acuminatis, basi in petiolulis brevibus attenuatis, spatha pallide viridi inferne cylindraceo-tubulosa striata, ore vix contracto, superne ovato-lanceolata erecta acuminata concava apice acuminata incurva tubi longitudine, spadice inferne contracto floribus sparsis infra fœmineis reliquis masculis, appendice erecta flavo-viridi, e basi incrassata longissime subulata omnino nuda.

Arisæma Wightii. *Schott, in Bonpl.* 1859, *p.* 26; *et in Prodr. Syst. Aroid. p.* 43.

Arisæma filiforme. *Thw. En. Pl. Zeyl. p.* 334 (*C. P.* 3118), *vix Blume.*

This species of *Arisæma* we have received from our friend Mr. Thwaites as a native of the southern part of Ceylon, and he has, in his valuable 'Enumeratio Plantarum Zeylaniæ,' recorded it as the *A. filiforme* of Blume, in 'Rumphia,' vol. 1. p. 102. t. 28, but has justly observed,—"In my specimens, the five folioles of the leaf are radiate, not pedate, as Blume's figure represents them, but in other respects the resemblance appears to be perfect." There is, however, a considerable difference in the colouring in the spadix and spatha, and not a little in shape of the latter, and our plant wants abortive flowers, which are found on the lower portion of the appendage of the spadix. Mr. Thwaites also refers with a mark of doubt to the *Arisæma curvatum*, Kth. (*Arum curvatum*, Roxb.); but this is, too, a pedate-leaved plant, and different in the folioles, etc., of which I possess an authentic figure. It is indeed clearly the very little known *Arisæma Wightii* of Schott, in 'Bonplandia,' l. c., and subsequently in his 'Prodromus Systematis Aroidearum,' native of the Carnatic Malabar, and extending to Ceylon.

April 1st, 1865.

Descr. *Tuber* nearly as large as the fruit of a Horse-chestnut, subglobose, rooting at the summit. *Plant* one to one and a half feet high. *Stem* erect, simple, sheathed in the lower half, and, as well as the sheaths, spotted. *Leaves* generally two, long, petiolate, quinate; *leaflets* or *folioles* four to five inches long, radiating, elliptical-lanceolate, suddenly and submucronato-acuminate, the bases gradually attenuated into short *petiolules*, quite simple (never pedate), penniveined; *veins* simple, erecto-patent. *Spatha* three to three and a half inches long, of a uniform pale-green, streaked with slightly darker shades of the same colour: the lower half a little swollen at the base, convolute into a cylindrical tube, equal in length with the floriferous portion of the spadix, which it encloses; upper half, or *lamina*, nearly erect, ovato-lanceolate, concave, the superior portion of it much acuminate and more or less incurved over the mouth of the tube. *Spadix* throughout pale yellow-green, contracted immediately below the appendage, and there only floriferous; the flowers singularly scattered, yet pretty regularly distant from each other; the lower one-third is occupied by *pistils*, the rest by *stamens*; no abortive flowers. *Filaments* stout, each bearing two one-celled subglobose anther-cells, with a transverse fissure. *Pistil* ovate; *stigma* sessile, discoid. *Appendage* from a thickened subglobose base, subulate, six inches long, gradually tapering to an obtuse point, incurved in the lower portion, the rest erect.

Fig. 1. Plant, on a very reduced scale. 2. Tuber, root, leaf, and flowers:—*natural size*. 3. Floriferous portion of the spadix, crowned by the base of the appendage,—*natural size*. 4. Stamen; and 5. Pistil:—*magnified*.

2.

3.

Tab. 5508.

CYPRIPEDIUM LÆVIGATUM.

Glossy-leaved Lady's-slipper.

Nat. Ord. Orchideæ.—Gynandria Diandria.

Gen. Char. (*Vide supra*, Tab. 5349.)

Cypripedium *lævigatum*; foliis distichis ensiformibus coriaceis obtusiusculis lævigatis immaculatis scapo pubescente stricto 3–5-floro brevioribus, bracteis ovatis acutis ovario 2-plo brevioribus, sepalis lateralibus connatis dorsali ovato acuto conformibus, petalis sepalis 4-plo longioribus linearibus sursum in margine setoso-glanduligeris contortis acuminatissimis, labello angusto oblongo acutiusculo, staminodio cordiformi emarginato. *Bateman.*

C. lævigatum. ***Bateman, mss.***

This fine new *Cypripedium* was discovered by Mr. J. G. Veitch in the Philippine Islands, and by him sent to his father's establishment at Chelsea, where it bloomed for the first time in March last. It is most nearly related to *C. Stonei*, the only other species known to have glossy leaves, but differs from it in the form and colour of its lip, which is small and of a dirty yellow, while that of *C. Stonei* is large, with a pink front on a white ground; the petals, too, of *C. Stonei* are not twisted, and only twice the length of the sepals, while in *C. lævigatum* they are much twisted, and at least four times the length of the sepals. Again in *C. Stonei* the dorsal sepal is striped on the outside with crimson, but is white within, whereas in *C. lævigatum* the crimson stripes are all on the inside.

Mr. Veitch found *C. lævigatum* established upon the roots of the well-known *Vanda Batemanni*, to obtain which was one main object of his voyage, though he sought for it long in vain, and had almost begun to despair of ever meeting with it, when running his boat one day ashore in the bay of a small island, he was delighted and astonished to find the rocks by the coast covered with huge masses of the plant of which he was in quest. As the *Vanda* affects a warm situation, the *Cypripedium* should be treated in the same way. At Chelsea it is placed in the East India house, where it grows freely.

May 1st, 1865.

Descr. *Leaves* distichous, sword-shaped, less than a foot long, very thick, with a polished glossy surface. *Scape* twice the length of the leaves, slightly pubescent, bearing from two to five flowers. *Bracts* ovate, acute, half the length of ovary. *Dorsal sepal* an inch long, broadly ovate, hairy externally, striped inside with purple, ovate, acute; lateral sepals coalescing into one, resembling the upper one in form, but more acuminate, striped inside with green. *Petals* five or six inches long by little more than a quarter of an inch wide, tapering, crenulate along their upper margin, on which are some dark, hairy, glandular spots; at the base they are of a green tint, which changes into chocolate-purple for about three-fourths of their entire length. *Lip* small for the genus, about as long as upper sepal, unguiculate for less than half its length, then abruptly saccate, with a curious bilobed horny process on either side, of a dirty-yellow throughout. *Ovary* pubescent, about two inches long, purplish-brown. *Column* or sterile stamen heart-shaped at its apex, and emarginate.—*J. B.*

Fig. 1. Front view of lip. 2. Side view of sterile stamen (column), with its appendages. 3. Front view of ditto:—*magnified.*

3.

5.

6.

Vincent Brooks, Imp.

Tab. 5509.

ARUM Palæstinum.

Jerusalem Arum.

Nat. Ord. Aroideæ.—Monœcia Monandria.

Gen. Char. (*Vide supra*, Tab. 2432.)

Arum *Palæstinum*; folio late hastato-sagittato lobo intermedio late ovato-oblongo subacuto lateralibus minoribus consimilibus obtusiusculis, pedunculo petiolo breviore, spathæ tubo brevi intus viridi lamina oblongo-lanceolata apice obtuse attenuata atro-purpurea immaculata, appendice obsolete stipitato-elongato cylindraceo obtuso atro-purpureo, organis neutris supra stamina et inter stamina et ovaria e basi late subulatis purpureis.

Arum Palæstinum. *Boiss. Diagnos. v.* 13. *p.* 6. *Schott, Prodr. Syst. Aroid.* 79.

A singular though not showy plant, discovered by the distinguished Genevan botanist and traveller M. Boissier, near Jerusalem, from whence also the plant here figured was procured by Messrs. Veitch, of the Royal Exotic Nursery. Except in the broader leaves, our specimen agrees perfectly with Boissier and Schott's descriptions, as also with a plant which flowered in the Imperial Garden of Schönbrunn, and of which the late Dr. Schott has kindly communicated a dried specimen under this name.

Descr. *Tuber* not described. *Leaf* appearing about the same time as the flower, six inches long, as broad across the lobes, cordate, hastate; central and lateral lobes broadly ovate-oblong, hardly acute; texture subcoriaceous, bright-green. *Peduncle* shorter than the petiole. *Spatha* about as long as the leaf, its sheath broad, short, green externally and internally; blade elongate, lanceolate-oblong, gradually narrowed to a rather broad subacute point; dirty-green externally, black-purple within, not spotted. *Spadix* shorter than the spatha. *Ovaries* forming a short, crowded, subcylindric cone, green, with purple stigmas, horizontal. *Anthers* broadly oblong, shortly stipitate, with short subterminal slits. *Neuter organs* both above and below the anthers, subulate, with very broad bases, purple. *Appendix* four

to five inches long, cylindric, narrowed below into an obscure stipes, obtuse, black-purple.

Fig. 1. Spadix. 2. Stamen. 3. Neuter organ. 4. Ovary. 5. Longitudinal, and 6. Transverse section of ditto :—*all magnified.*

W Fitch del et lith.

Vincent Brooks Imp

Tab. 5510.

RAPHIOLEPIS Japonica, *Sieb. et Zucc.*; var. *integerrima.*

Japanese Rhaphiolepis, entire-leaved variety.

Nat. Ord. Rosaceæ.—Icosandria Digynia.

Gen. Char. *Calyx* infundibuliformis, 5-dentatus, lobis deciduis. *Petala* 5, obovata v. oblongo-lanceolata. *Stamina* ad 20, filamentis filiformibus. *Ovarium* 2-loculare; *styli* 2, exserti, stigmatibus capitellatis. *Ovula* in loculis gemina. *Pomum* disco incrassato clausum, putamine chartaceo. *Semina* gibba, testa coriacea crassissima.—Arbores *et* frutices *Chinenses v. Japonicæ.* Folia *simplicia, alterne coriacea, sempervirentia, integerrima v. crenulata.* Racemi *terminales, erecti;* bracteis *squamosis persistentibus.*

Raphiolepis *Japonica;* foliis obovatis obovato-oblongis oblongo-lanceolatisve obtusis acutisve integerrimis v. crenato-serratis, bracteis amplis oblongis obtusis ciliatis, calycis lobis parvis triangulari-ovatis ciliatis, petalis late oblongis.

Raphiolepis Japonica. *Sieb. et Zucc. Fl. Japon. v. 2. p.* 35.

Var. *integerrima;* foliis crasse coriaceis obtusis v. obtuse apiculatis integerrimis.

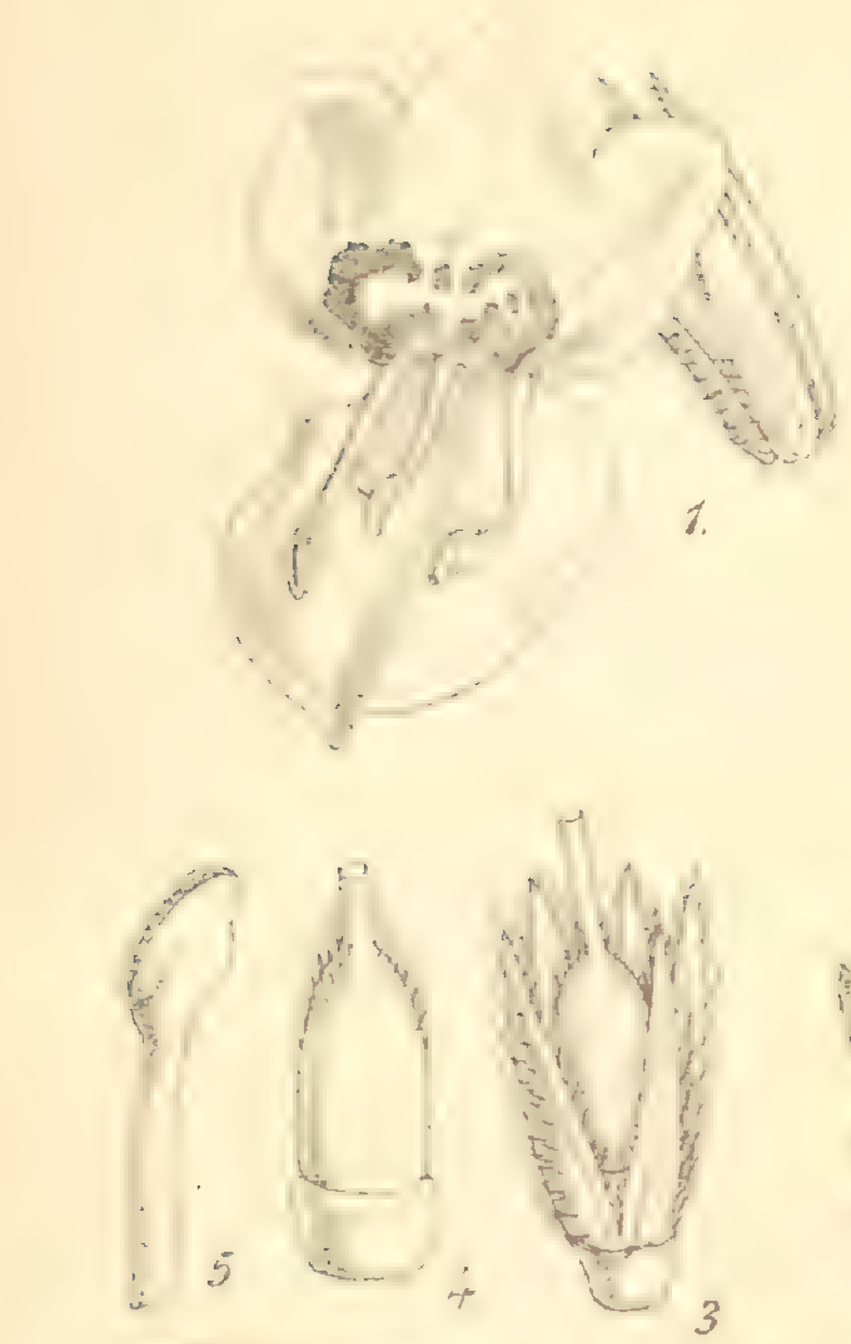
Raphiolepis integerrima. *Hook. et Arn. Bot. Beech. Voy.* 263.

A remarkably pretty plant, with thick, evergreen, shining leaves, and large, white, odorous flowers. We first received it at the Royal Gardens from Berlin, in 1862, and more recently from other quarters. Its native countries are Japan, Bonin, and the Korean Islands. Though very variable in habit, stature, and foliage, it may always be distinguished from its near ally, the Chinese *R. Indica*, by the much larger flowers and large broad obtuse bracts.

Descr. A shrub. *Branches* stout, glabrous, often as thick as a swan's quill. *Leaves* alternate and obscurely whorled, two to three inches long, shortly petioled, broadly obovate, obtusely apiculate, dark-green and shining above, paler below, obscurely veined. *Panicles* terminal, erect, two to four inches high, densely clothed below with large, green, imbricating, oblong, concave, ciliated bracts; branches few, and pedicels stout.

Flowers two-thirds of an inch in diameter, snow-white. *Calyx-tube* narrow, turbinate, pubescent; *lobes* ovate-triangular, small, ciliate. *Petals* broadly oblong, obtuse, ciliate at the base. *Filaments* white.

Fig. 1. Petal. 2. Ovary and calyx. 3. Vertical; and 4. Transverse section of the ovary:—*all magnified.*



1.

2.

5 4 3

W.Fitch,del.et lith

Vincent Brooks Imp.

Tab. 5511.

HYPŒSTES SANGUINOLENTA.

Blood-veined Hypœstes.

Nat. Ord. Acanthaceæ.—Diandria Monogynia.

Gen. Char. Calyx herbaceus, 5-fidus v. 5-partitus. *Corolla* 2-labiata, resupinata; tubus rectus v. paulo curvus, sæpe elongatus, labio superiore non galeato 3-fido, lobo medio lateralibus majore; inferiore integerrimo v. 2-dentato, sæpissime convexo. *Stamina* fertilia 2, antheris 1-locularibus. *Semina* retinaculo uncinato suffulta.—Herbæ *v.* suffrutices. Folia *opposita*. Inflorescentia *varia*.

Hypœstes *sanguinolenta;* caule acute tetragono angulis pubescenti-tomentosis, foliis petiolatis oblongis obtusis integerrimis in petiolum sensim angustatis, nervis rubro late marginatis, floribus paniculatis, bracteis parvis ovato-lanceolatis, sepalis lineari-subulatis ciliatis, corolla resupinata pallide purpurea, lobo inferiore quadrato-oblongo apiculato, superiore 3-lobo, lobis subæqualibus late oblongis, fauce albo purpureo variegato, ovario apice hispido.

Eranthemum sanguinolentum. *Van Houtte, Flore des Serres*, 157. *t.* 1391.

A pretty little Acanthaceous plant, conspicuous for the broad pale-purple bands that mark each vein of leaf. It flowered in the Royal Gardens, Kew, from plants received from Messrs. Veitch, of the Royal Exeter Nursery, Chelsea, and is stated to be a native of Madagascar. In the present confused state of the genera of *Acanthaceæ*, it is not easy to determine that of this plant: that it can have nothing to do with *Eranthemum* is obvious; it accords pretty well with the characters of *Hypœstes*, in which we place it, and of which there are many African and Madagascar species.

Descr. *Stems* six to twelve inches high in our plants, acutely quadrangular, pubescent, especially in the angles. *Leaves* about three inches long, oblong or obovate-oblong, obtuse, narrowed into a rather broad petiole, entire, the margin waved a little, pubescent on both surfaces. *Panicle* erect, four to six inches high, sparingly branched, branches erecto-patent, bracts ovato-subulate, shorter than the calyx. *Flowers* pale-purple, with a

white throat, and darker markings of purple on the white. *Sepals* narrow, ciliate, shorter than the corolla-tube. *Corolla* resupinate: tube slender, curved; lower lobe subquadrate-oblong, upper bluntly trifid. *Stamens* two, with one-celled anthers. *Ovary* glabrous, hispid towards the top. *Stigma* bifid.

Fig. 1. Flower. 2. Calyx and style. 3. Calyx and ovary. 4. Ovary. 5. Stamen:—*all magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5512.

AUCUBA Japonica.

Japanese Aucuba.

Nat. Ord. Corneæ.—Diœcia Tetrandria.

Gen. Char. Flores dioici. Masc.: *Calyx* parvus, 4-dentatus. *Petala* 4, sub margine disci inserta, ovata v. lanceolata, patentia, valvata. *Stamina* 4, cum petalis inserta, filamentis brevibus subulatis; *antheræ* didymæ. *Ovarii* rudimentum 0. Fœm.: *Calycis* tubus ovario adnatus, limbo breviter 4-dentato. *Petala* maris. *Stamina* 0. *Ovarium* inferum, 1-loculare, disco epigyno coronatum; stylus brevissimus, stigmate oblique peltato; *ovulum* solitarium, pendulum. *Bacca* ovoidea, carnosa, 1-sperma. *Semen* loculum implens, testa membranacea; *embryo* minutus, in apice albuminis copiosi carnosi.—Frutices Japonici *et* Himalaici, *glabri v. partibus novellis appresse pilosulis.* Folia *opposita, petiolata, coriacea, ovato-oblonga v. lanceolata, serrata.* Paniculæ *breves, ex axillis superioribus ortæ, paucifloræ.* Flores *parvi.* Baccæ *majusculæ, rubræ.*

Aucuba *Japonica;* foliis ovatis acuminatis grosse remote dentatis, petalis late ovatis acutis.

Aucuba Japonica. *Thunb. Jap. v.* 4. *t.* 12. *Bot. Mag. t.* 1197 (*female plant, variegated variety*).

The *Aucuba Japonica* affords a singular instance of the great length of time that may elapse between the first information of a remarkable plant being received, and an accurate knowledge of it acquired. This plant was first introduced from Japan in 1783 by a Mr. John Græffer (see Bot. Mag. t. 1197), but only the female plant, and this under the well-known variegated form. From that one plant, the millions now scattered over Europe and America have been derived; but it is only within the last few years that, thanks to the indefatigable Mr. Fortune, the male plant, and in its native unvariegated form, has reached us. This, which we here figure, differs in no respect except colour from the cultivated plant, and except that it bears abundantly handsome scarlet berries, it would have no chance of rivalling in popular estimation the variegated form.

Two other lessons may be learned from the history of the

Aucuba : first, that varieties may be, and indeed in many cases are, as permanent as species. Of *variations*, that consisting in discoloration of the foliage is supposed to be the least characteristic and permanent, and yet the *Aucuba* has retained this character unchanged through upwards of eighty years in Europe, America, and the colonies; and probably through many centuries in Japan. Secondly, that though discoloration is usually attributed to disease, this may not be so really; for certainly the *Aucuba* has shown no sign of deterioration since it was first introduced. Several curious problems remain to be solved with regard to the *Aucuba*, such as, whether the old variegated form will seed well if impregnated by pollen of the uncoloured, and whether its seedling will be as strong and healthy as its offspring by cuttings; whether the uncoloured form will ever sport and become variegated, as many plants are apt to do on damp clay soils; and whether the offspring of the uncoloured and coloured forms will tend most to the one or the other of its parents.

It is curious to read that the *Aucuba*, when first introduced, was treated as a stove-plant, and even as late as 1809 was often cultivated in a greenhouse, where the leaves are described as being of a fuller green than when cultivated out-of-doors.

The uncoloured female *Aucuba* is now common in our collections: for the magnificent fruiting branch we have figured we are indebted to Messrs. Standish's Ascot Nursery.

Fig. 1. Female flower. 2. Ovary. 3. Berry. 4. Transverse; and 5. Vertical section of ditto. 6. Panicle of male flower. 7. Male flower:—*all but* 3, 4, 5, *and* 6, *are magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp

Tab. 5513.

CYPRIPEDIUM CONCOLOR.

Self-coloured Lady's-slipper.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 5349.)

Cypripedium *concolor*; acaule, foliis (3–5) coriaceis oblongis obtusis arctissime implicatis canaliculatis maculatis subtus intense purpurascentibus scapo pubescente bifloro 2-plo longioribus, bracteâ foliaceâ acuminatâ ovario tomentoso vix æquali, sepalis subrotundis labello breviter unguiculato conico-saccato longioribus, stamine sterili subcordato cuspidato. *Bateman.*

This new *Cypripedium* differs entirely from all the species of that extensive genus at present known to us. Its leaves are compactly arranged, and being beautifully mottled on their upper surface and of a rich reddish-purple below, they contrast agreeably with the pale-primrose tint of the flowers, two of which are borne on a short hairy scape. It is a native of Moulmein, where it was found growing on limestone rocks by the Rev. C. Parish, who forwarded a careful drawing to Sir William Hooker. Colonel Benson also found it in the same localities, and dispatched living plants to Kew, where they are now thriving. Other specimens were received at the Clapton Nursery from Mr. Parish, one of which having found its way into Mr. Rucker's collection, flowered there early in the present year, while another blossomed in the collection of Mr. Day. Both were exhibited at the Tuesday meetings of the Horticultural Society at South Kensington, and justly attracted a good deal of attention. The drawing was taken from Mr. Rucker's specimen.

C. concolor seems to grow and flower as freely, and to be managed with as little difficulty as the other Indian *Cypripedia*.

Descr. *Leaves* four or five together, lying nearly flat, oblong, channelled, beautifully mottled on their upper surface with light-green on a darker ground, but of a reddish-purple underneath; they are from four to six inches long. *Flower-scape* very short,

hairy, purple, scarcely raised above the leaves, usually two-flowered. *Bracts* large and pointed, one at the base of each flower, covered with minute hairs. *Flowers* fully two inches across, of a uniform pale-yellow, sprinkled over with minute crimson dots. *Dorsal sepal* nearly round, about the same size as the lower sepal, the latter being of a more ovate form. *Petals* oblong, obtuse, fringed—as are also the sepals—with minute hairs. *Lip* small for the genus, not quite so long as the petals, forming a narrow conical pouch, which occupies nearly three-fourths of its entire length.—*J. B.*

Fig. 1. Upper end of sterile stamen. 2. Side-view of ditto. 3. Side-view of lip :—*magnified.*

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Tab. 5514.

VELLOSIA candida.

Pure-white Vellosia.

Nat. Ord. Hæmodoraceæ.—Polyadelphia Polyandria.

Gen. Char. Perianthium corollinum; tubus basi ovario adnatus; limbus campanulatus, 6-phyllus, foliolis æqualibus. *Stamina* ima basi limbi corollæ inserta, nunc 6 libera, nunc indefinita v. definita varie connata, filamentis breviusculis; antheræ lineares, basifixæ. *Ovarium* inferum, 3-loculare; stylus elongatus, stigmate 3-lobo; ovula numerosa, placentis axillaribus prominulis multiseriatim affixa. *Capsula* subglobosa clavata v. 3-gona, 3-locularis, loculicide 3-valvis, valvis medio septiferis, polyspermis. *Semina* numerosa, horizontalia, cuneata; *testa* coriacea, umbilico basilari incrassato ope raphis filiformis chalazæ laterali impressa conjuncto; *embryo* axilis.—Frutices *v.* subarboreæ, *caulibus vestigiis foliorum truncatis, dichotome ramosis.* Folia *sæpe* 3-*fariam disposita, sæpius linearia, carinata, integerrima v. serrulata.* Flores *solitarii, sessiles v. pedunculati, speciosi, albi cærulei v. violacei.*

Vellosia *candida;* suffruticosa, cæspitosa, ramis brevibus apice foliosis, foliis lineari-gramineis filiformi-acuminatis angustis rigidis carinatis, marginibus remote spinuloso-serrulatis, pedunculo elongato superne ovario perianthioque scabrido-glandulosis, perianthio albo, staminibus 18 hexadelphis, capsula subglobosa processubus rigidis patentibus obtusis densissime obsita.

Vellozia candida. *Mikau. Delect. Brasil. t.* 7. *Spreng. Syst. Veg. v.* 3. *p.* 338 *et Cur. Post.* 296.

Of the most beautiful and singular genus *Vellosia*, the present is the only species which, in so far as we are aware, has flowered in this country. The seeds were sent by the late Mr. Gardner, during his Brazilian journey, to the Glasnevin Gardens of Dublin, where a plant flowered this year, under the skilful management of Dr. Moore. The species is probably widely distributed; it appears to be common about Rio de Janeiro, whence we have specimens from Mr. Graham, Mr. Boog, and Mr. Gardner himself (p. 132). Sprengel gives as synonyms the *V. aloæfolia*, Mart., and *V. tubiflora*, H. B. and K. (*Radia tubiflora*, A. Rich), a native of the Orinoco, but we refrain from quoting these plants as synonyms in a genus of which so little is accurately known.

June 1st, 1865.

Of the genus *Vellosia* there are many described Brazilian species, of which not a few are arborescent, and bear magnificent flowers, white, blue, and purple. Now that their cultivation is understood, we may hope that they will soon be imported, and ornament our stoves.

Fig. 1. Margin of leaf, with serrature. 2. Ovary and stamens. 3. Phalanx of stamens. 4. Transverse section of ovary :—*all magnified.*

W.Fitch, del. et lith.

Vincent Brooks Imp

Tab. 5515.

DENDROBIUM HEDYOSMUM.

Sweet-scented Dendrobium.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 5303.)

Dendrobium *hedyosmum;* caulibus erectis nigro-hirsutis spithamæis, floribus lateralibus geminatis odoratissimis, sepalis petalisque subæqualibus ovato-lanceolatis acutis nitidis, labelli trilobi lobis lateralibus erectis acutis intermedio majore margine crispulo, disco sulcato, apice acuto decurvo. *Batem.*

Dendrobium hedyosmum. *Bateman, mss.*

Dendrobium albo-viride. *Parish in lit.*

Although the vast majority of the species of the great Indian genus *Dendrobium* are entirely scentless, a few, *e.g. D. macrophyllum*, send forth disagreeable odours, while a still smaller number, among which may be classed the subject of the accompanying Plate, yield the most grateful perfumes. The fragrance of *D. hedyosmum* might almost be mistaken for Wallflower.

Our plant was received from Moulmein two years ago by Messrs. Hugh Low and Co., of the Clapton Nursery, under the name of *D. albo-viride*, which had been provisionally given by its discoverer, Mr. Parish. And indeed when the flowers of a specimen at Knypersley, from whence the figure is taken, first opened, they were unmistakably of a pale greenish-white and so far justified Mr. Parish's specific name; but in the course of a few days these tints disappeared, the sepals and petals began to shine like polished ivory, while the disk of the lip glowed with a rich orange-yellow, thus entirely changing the appearance and character of the blossoms, and rendering the name of *albo-viride* no longer appropriate. Under these circumstances, I have ventured to substitute the name of *hedyosmum*, in allusion to the delicious perfume of the flowers, a change which I cannot doubt will be approved by Mr. Parish himself.

June 1st, 1865.

D. hedyosmum flowers in the spring, and its blossoms, after undergoing the change described above, continue in beauty for many weeks. It requires no particular treatment. Botanically, it is allied, though not very closely, to the plant already figured in this work (*supra*, Tab. 5454) under the name of *D. marginatum*, respecting which I fell into an error that I am glad to take this opportunity of correcting. As the circumstances that led to the mistake were somewhat peculiar, I may perhaps be allowed to relate them; they were as follows:—Messrs. Low had received, in 1863, from Mr. Parish several new *Dendrobia*, among which was one that came to them under the name of *D. xanthophlebium*, and on which several flowers were speedily produced. When collating these by the aid of Dr. Lindley's admirable paper (in the Linnean Transactions) on the Orchidology of India, I passed over altogether the species ranged under his "nigro-hirsute" section, because not a trace of black or any other hair was to be found on the smooth slender stems of our plant. Then, as I altogether failed to find it among the other sections of the genus, I naturally concluded that it must be new, and gave it accordingly the name of *D. marginatum*, in allusion to the white edges of its lip. When, however, after the lapse of a few months the fresh growth commenced, I found to my surprise that the young stems were abundantly clothed with *black hairs*, a circumstance that led me to turn once more to Dr. Lindley's paper, and here, in the "nigro-hirsute" section that I had previously passed by, I instantly recognized the plant under its true designation of *D. xanthophlebium*. The latter name must therefore be restored, and my name of *D. marginatum* cancelled.

Descr. *Stems* erect, clustered together, about a span long, when young clothed with small black hairs, which speedily fall off. *Leaves* narrow, short, and leathery, unequally emarginate at their points. *Flowers* in pairs, opposite the joints of the leaves, and freely produced over the whole of the upper half of the stems, exuding a delicious fragrance resembling Wallflower. *Sepals* and *petals* nearly equal, scarcely an inch long, ovate-lanceolate, acute, turned slightly backwards, presenting a polished surface resembling ivory, and of the purest white. *Lip* about the same length as the petals, three-lobed, its lower portions erect, stretching forwards, acute, of a greenish tint, its central lobe oval, pointed, recurved, yellow, with rich orange furrows along its disk; the mentum very small. Column about the length of the lower lobes of the lip.—*J. B.*

Fig. 1. Front view of lip and column. 2. Pollen-masses:—*magnified.*

W. Fitch del. et lith.

Vincent Brooks Imp.

Tab. 5516.

ACANTHUS MONTANUS.

African Mountain Acanthus.

Nat. Ord. Acanthaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx 4-partitus, laciniis supera et infera multo majoribus. *Corolla* 1-labiata, tubo brevissimo, labio 3-5-lobo. *Stamina* 4, subdidynama, filamenta infera apice inflexa; antheræ omnes uniloculares ciliato-barbatæ, superiores erectæ. *Capsula* 2-locularis, compressa, e basi ad medium 4-sperma, lateribus chartaceis. *Semina* compressa.—Herbæ *v.* frutices *tropicæ*, Orientales *et regionis* Mediterraneæ *incolæ, foliosæ.* Folia *patentia, ampla, rigida, pinnatifida v. sinuato-spinosa et dentata.* Spicæ *terminales, bracteatæ.* Flores *speciosi, albi v. cærulescentes.*

Acanthus *montanus;* herbacea, glabra, foliis oblongis v. oblongo-lanceolatis caudato-acuminatis pinnatifidis v. sinuato-lobulatis, laciniis ovatis acutis sinuato-dentatis, dentibus spinosis, spica terminali densa glaberrima, bracteis obovatis oblongisve acutis inciso-dentatis, dentibus setaceis, bracteolis lineari-lanceolatis parcius dentatis.

A. montana. *T. Anders. in Journ. Linn. Soc. v. 7. p.* 37.

Cheilopsis montana. *Nees in De Cand. Prodr. v.* 9. *p.* 272, *excl. synon.*

A very handsome plant, originally detected by Vogel at Fernando Po, since collected by Mann on the same island, at 2000 feet elevation; also found on Prince's Island by Barter, and on the west coast of Africa, south of the tropics, by Curror. It is erroneously described by Nees as a shrub many feet high, Barter and Mann both calling it a herb of only three feet high. The Abyssinian *Acanthus tetragonus* of Brown, referred to this plant doubtfully by Nees, has been shown by Dr. Anderson to be a species of *Blepharis*. The specimen here represented flowered with Dr. Moore, of the Glasnevin Gardens, who raised it from seed lately sent from Western Africa by Mr. Milne.

Dr. Anderson, in his able sketch of the African *Acanthaceæ* in the Linnean Society's Journal, has done well in bringing both *Dilivaria* of Jussieu and *Cheilopsis* of Moquin-Tandon under the old genus *Acanthus* of Linnæus, the essential characters of

all the plants contained in the genera being very uniform and similar, and the habit identical.

Fig. 1. Bracts, calyx, and ovary. 2. Inner sepals, and ovary:—*both magnified.*

W.Fitch,del.et lith.

Vincent Brooks, Imp.

Tab. 5517.

RAILLIARDIA ciliolata.

Ciliate-leaved Raillardia.

Nat. Ord. Compositæ.—Syngenesia Æqualis.

Gen. Char. Capitulum 4–8-florum, homogamum. *Involucrum* cylindricum, 3–8-phyllum, squamis leviter connatis 1-serialibus, basi bracteolatum v. nudum. *Receptaculum* angustum, nudum. *Corolla* tubulosa, 5-dentata. *Filamenta* superne incrassata; *antheræ* ecaudatæ. *Stigmata* divergentia, acuminata. *Achænia* tereti-angulata, glabra v. hirsuta. *Pappus* 1-serialis, plumosus, setis basi subcorneis.—Frutices Sandwicenses, *ramulis teretibus.* Folia *alterna v. opposita, lineari-oblonga v. lanceolata, integerrima v. serrata,* 1–7-*nervia, supra sæpe nitida.* Capitula *racemosa subcorymbosa v. paniculata.* Flores *lutei. Endl.*

Railliardia *ciliolata;* ramosa, ramis ad apices conferte foliosis, foliis oppositis decussatis sessilibus lineari- v. lanceolato-oblongis acutis subscaberulis hispidulisve ultra medium subserratis 1- v. obscure 3-nerviis subtus carinatis, marginibus subrecurvis, capitulis paucis racemosis pedunculatis cernuis, involucro glanduloso-pubescenti, squamis ad 8.

Railliardia ciliolata. *De Cand. Prodr. v.* 6. *p.* 441. *A. Gray in Proceedings Amer. Acad. v.* 5. *p.* 133.

A remarkable little, almost shrubby *Composita*, a native of Hawaii, in the Sandwich Islands, whence our valued correspondent Dr. Hillebrand sent it to Kew in 1858. The species inhabits the lofty volcanic mountains of that island, at elevations of 10,000 feet, where it was originally detected by Mr. Macrae, a collector for the Horticultural Society of London.

The genus *Railliardia* is an example of the singular fact, that many genera of arborescent and shrubby *Compositæ* are peculiar to remote oceanic volcanic islands, and are often represented to a great extent in different islets of these groups by different species, no species of such genera being found in other parts of the world. Thus in the Sandwich Islands alone we have *Railliardia* with nine species, and *Dubautia* with four; in the Gallapagos, *Scaleria* with six; in Juan Fernandez there is *Robinsonia* with four species; in Tahiti *Fitchia;* whilst in the isle of

St. Helena all the *Compositæ* are shrubby or arborescent, including *Commidendron* with five, and *Lachanodes* with three species.

Fig. 1. Leaf. 2. Involucre. 3. Floret. 4. Scale of pappus:—*all magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5518.

ANEMONE (Hepatica) angulosa.

Angle-leaved Hepatica.

Nat. Ord. Ranunculaceæ.—Polyandria Polygynia.

Gen. Char. Involucrum sub flore e foliis 3 verticillatis (v. segmentis folii floralis) compositum. *Sepala* 4–20, petaloidea. *Petala* 0, nisi stamina exteriora in glandulas stipitatas mutata. *Carpella* indefinita, multiovulata. *Ovulum* pendulum. *Achænia* capitata, stylo persistente nudo v. barbato acuminata v. caudata.—Herbæ, *caudice perenni.* Folia *radicalia dissecta v. lobata.* Scapi *radicales præter involucrum flori approximatum v. plus minus remotum (nonnunquam repetitum scapo ramoso) aphylli.* Flores *terminales, cærulei albi rubri v. purpurei, rarius pallide flavicantes.* Stamina *sepalis breviora.* Achænia *sæpius compressa carinata v. alata, faciebus aveniis v. rarius* 1–3*-nerviis, rarius angulata. Benth. et Hook. f. Gen. Pl.* 4.

Anemone (Hepatica) *angulosa;* foliis radicalibus palmato-3–5-lobis, lobis crenato-dentatis, petiolo scapisque sericeo-villosis, floribus amplis, involucri foliolis flore approximatis apice 3-lobis.

Anemone angulosa. *Lam. Dict. v.* 1. *p.* 169.

Hepatica angulosa. *De Cand. Prodr. v.* 1. *p.* 22.

H. triloba, *var.* angulosa. *Spach, Syst. Veget. v.* 7. *p.* 241.

A very beautiful spring-flowering plant, considered by Spach as a variety of *A. (Hepatica) triloba*, but abundantly distinct in the larger size, always toothed or almost lobulate lobes of the leaf, and very much larger and more beautiful flowers. The plant from which our Plate was taken was flowered by Messrs. Backhouse, of York, whose collection of herbaceous plants is celebrated for its beauty, variety, and high condition. The plant is a native of Hungary.

The genus *Hepatica*, first indicated by Dillenius, has been accepted by some succeeding botanists and rejected by others, the former preponderating. Latterly, however, the discovery in Kashmir of a species of *Anemone* (*A. Falconeri*, Thoms. in Hook. Ic. Plant. t. 899) closely resembling the *H. triloba* in habit and all other essential characters, except the position of the three

involucral leaves, which afford the main distinctive character of *Hepatica*, invalidates the latter genus altogether.

Fig. 1. Involucral leaves and carpels,—*natural size*. 2. A carpel, removed, —*magnified*.

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Tab. 5519.

FOURCROYA longæva.

Long-enduring Fourcroya.

Nat. Ord. Amaryllidaceæ.—Hexandria Monogynia.

Gen. Char. Perigonium corollinum, superum, deciduum, hexaphyllo-partitum, *foliolis* æqualibus patentiusculis. *Stamina* 6, epigyna; *filamenta* basi cuneato-dilatata, æstivatione erecta, sub anthesi inclusa; *antheræ* ovatæ, medio dorso affixæ, erectæ. *Ovarium* inferum, triloculare. *Ovula* plurima, in loculorum angulo centrali biseriata, horizontalia. *Stylus* triqueter, basi strumoso-incrassatus, subexsertus, cavus, apice pervius; *stigma* obtusum, fimbriatum. *Capsula* coriacea, trilocularis, loculicido-trivalvis. *Semina* plurima, plano-compressa.—Herbæ *in America calidiore cis æquatorem indigenæ, longævæ, semel florentes;* caudice *interdum giganteo, apice folioso;* scapo *terminali paniculatim ramoso, multifloro. Endl.*

Fourcroya *longæva;* elata, arborescens, foliis e basi dilatata angusto-ensiformibus acuminatis inermibus, margine dorsoque calloso scabriusculis, scapo longissimo erecto, per totam fere longitudinem composito-racemoso, floribus extus glanduloso-pilosis.

Fourcroya longæva. *Karw. et Zucc. in Nov. Act. Bonn. v.* 16. *pt.* 2. *p.* 666. *t.* 48. *Herb. Amaryll. p.* 126. *t.* 33. *f.* 20–25.

At Tab. 2250 of the 'Botanical Magazine' has been given a figure of the noble *Fourcroya gigantea* of Ventenat, and at our Tab. 5163 another species of *Fourcroya*, *F. flavo-viridis*, Hook.; both of these, however, are stemless plants. We have now the great satisfaction of representing a far more striking species even than the *F. gigantea*, namely, the *F. longæva* of Karwinski and Zuccarini, which flowered in the conservatory of the Regent's Park Royal Botanic Garden, in the summer of last year, under the skilful management of Mr. Robinson,—for the first time, I have every reason to suppose, in Europe. The species was first made known to science by Baron Karwinski, distinguished by his botanical travels in Mexico, and it was figured and described by him and Zuccarini in the volume of the 'Nova Acta' above

quoted. It is this, too, that is so admirably illustrated by Mr. Bateman by an interesting vignette-landscape in his splendid 'Orchidaceæ of Mexico and Guatemala' (under t. 17), with the quotation :—

> "Unde nil majus generatur ipso,
> Nec viget quidquam simile, aut secundum;"

and with the further remark :—"The stately plant here represented is *Fourcroya longæva*, one of the most marvellous productions of the vegetable world. It belongs to the family of *Amaryllidaceæ*, and has the habit of a gigantic *Yucca*, its stem being frequently fifty feet high, and its flower-spike forty more! It was originally discovered on Mount Tanga, in Oaxaca, at an elevation of ten thousand feet above the level of the sea. Mr. Skinner has also met with it on the high mountain-ridges in the interior of Guatemala. Plants of the species exist in our nurseries, but, contrary to expectation, it seems to suffer severely from the cold and changes of our climate."

With us and in the Regent's Park Garden, the temperature of a common greenhouse is sufficient for it; but the largest of our plants in cultivation are of course but pigmies in comparison with the height on its native mountains. At the time our drawing was made the specimen was past perfection (it has died after flowering), and we have thought it best to take our representation of the entire plants (on the extremely reduced scale) from Karwinski and Zuccarini's figures of the native plants. The flowers and analysis are from the recent specimen kindly communicated by Mr. Sowerby.

Descr. The *plant* which produced the flowers here represented was about fifteen feet high, including the flowering panicle, but we learn from travellers in Mexico and Guatemala that the *stem* alone there attains a height of forty and fifty feet, perfectly erect, straight, cylindrical, scarred transversely, terminated with a magnificent crown of *leaves* two to three feet long, coriaceo-carnose, from a very broad base, narrow, ensiform, very acuminate, with more the habit of those of some *Yucca* than of *Fourcroya* or *Agave;* the surface above is quite smooth, beneath it is finely striated, and the striæ and margin are rough with minute callose sharp points. These *leaves* are densely crowded, upper ones suberect, the lower ones are closely reflexed upon the stem. *Scape* terminal, for its whole length (said sometimes to equal forty feet!) forming a pyramidal much-branched *panicle*. *Flowers* bracteated at the base. *Bracteas* small, ovate, acuminate, about the length of the very short *pedicel*. *Tube* of the perianth (inferior ovary) three-quarters of an inch long, subcylindrical, glandulose-pubescent; the *limb* spreading, two to two and a half

inches across, white with a greenish tinge, yellow-green externally, pubescent towards the base. *Stamens* six, large, erect. *Filaments* subulate, singularly strumose above the thickened base. *Anthers* sagittate, orange. *Style* below the middle, with three globose, large, erect *tubercles*, which alternate with each pair of stamens. *Ovary* three-celled, obscurely three- or six-furrowed.

Fig. 1. Figures of two (one flowering) native plants, from Karwinski,—*on a very reduced scale.* 2, 3. Base and apex of a leaf,—*nat. size.* 4. Small portion of the back of a leaf,—*magnified.* 5. Branch of a panicle of flowers,—*nat. size.* 6. Flower, from which the segments of the perianth have been removed. 7. Stamens. 8. Style. 9. Transverse section of the stigma,—*more or less magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5520.

DENDROBIUM SENILE.

White-haired Dendrobium.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4755.)

Dendrobium *senile* (Eudendrobia chrysantha); caulibus fusiformibus vaginis hirtis vestitis superne triphyllis, foliorum laminis cuneato-ligulatis acutis hirtis, racemis uni- seu bifloris ex pseudobulbis vetustis, sepalis ligulatis acutis, petalis cuneato-oblongis acutis, labello medio trilobo, lobis lateralibus semiovatis obtusis, lobo medio acuto, callo subtiliter trisulcato in basi, disco anteposito velutino, columnâ apice tridentatâ. *Reichenbach, fil.*

Dendrobium senile. *Parish, mss. Rchb. fil. in 'Gardeners' Chronicle,' May*, 1865.

The place that is occupied by *Cereus senilis* among succulents may be claimed for *Dendrobium senile* among Orchids, *white* hairs, which are inevitably represented as black in the Plate, being profusely scattered over its stems and leaves. These, joined to the long-lasting yellow blossoms, render the species at once a singular and attractive plant. It blossomed at Knypersley in April last, and from the flowers then produced, compared with the wild specimens kindly lent by Messrs. H. Low and Co., the accompanying figure was prepared. It seems to be rather a delicate species, and should be placed in a shallow pot or on a block of wood, and suspended near the glass. It is amongst the most remarkable of the very many interesting plants discovered by the Rev. C. S. Parish in Moulmein.

Descr. *Stems* spindle-shaped about six inches long covered, as are the leaves, with short white hairs and bearing two or three leathery, obovate *leaves*, that are shorter than the stems and sharp-pointed. *Flowers* in pairs or occasionally single, from the sides of the stem, fleshy and of a rich yellow colour throughout. *Sepals* ligulate, acute. *Petals* rather wider than the sepals,

and somewhat cuneate, scarcely an inch long. *Lip* (not very deeply) three-lobed, the lateral lobes obtuse and semiovate, while the middle lobe is acute; on the base there is a callosity faintly three-furrowed, with a few orange streaks radiating from it. *Column* three-toothed at its apex.—*J. B.*

Fig. 1. Lip and column, seen nearly in front:—*magnified.*

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W Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5521.

MARIANTHUS Drummondianus.

Drummond's Marianthus.

Nat. Ord. Pittosporeæ.—Pentandria Monogynia.

Gen. Char. *Sepala* distincta. *Petala* basi v. rarius ultra medium erecto-subconniventia, superne patentia. *Filamenta* filiformia, v. basi v. medio dilatata; *antheræ* sæpius oblongæ, birimosæ. *Ovarium* sessile v. breviter stipitatum, perfecte 2- rarissime 3-loculare; *stylus* filiformis. *Capsula* ovoidea v. oblonga, leviter compressa v. subinflata, membranacea v. tenuiter coriacea, loculicide et interdum septicide dehiscens. *Semina* obovoidea v. reniformi-globosa, lævia v. muricata.—Suffrutices, ramis *procumbentibus flexuosis v. sæpius volubilibus.* Folia *integra, serrata, inferioribus rarius lobatis v. dissectis.* Flores *cærulei albi v. rubescentes, in paniculas corymbosas terminales sæpius compactas nunc umbelliformes dispositi v. rarius solitarii.* Corolla *sæpe leviter obliqua. Benth. et Hook.*

Marianthus *Drummondianus;* volubilis, gracilis, ramis junioribus foliisque pilis longis patentibus mollibus subferrugineis obsitis, rarius glabris, foliis obovatis oblongo-lanceolatisve acutis v. apice recurvis uncialibus (et ultra) dentatis subintegerrimisque, sessilibus vel in petiolum brevem brevipetiolatis, infimis subpinnatifidis, pedunculis terminalibus 1–3 filiformibus hirsutis $\frac{1}{4}$–$\frac{1}{2}$ unciam longis, sepalis lanceolato-subulatis hirsutis, petalis semiunciam (ad unciam) longis dimidio superiore patentibus, ovario stipitato glabro 3–5-ovulato in singulo loculo, capsula ovoidea valde turgida semiunciam longa, seminibus parvis globosis glabris. *Benth.*

Marianthus Drummondianus. *Benth. Fl. Austr. v.* 1. *p.* 119.

Oncospermum Drummondianum. *Pütterl. in Pl. Preiss. v.* 1. *p.* 194.

Marianthus of Huegel is a genus now, according to Mr. Bentham, including fourteen species, of which all, except two (*M. procumbens* of New South Wales and *M. bignoniaceus* from Victoria and South Australia), are natives of Western Australia, and chiefly from the Swan River settlement. The blue-flowered species are excessively pretty, as may be seen by our present figure, and by that of a nearly-allied species given at our Tab. 3893, *Marianthus cæruleo-punctatus.* The *M. Drummondianus* is a more slender and graceful twiner than that, while the flowers

are of a paler blue. Our flowering specimen was received from Messrs. Veitch, of the Chelsea Nursery, in May.

Descr. Whole *plant*, except the petals, more or less villous or ciliated (in the leaves) with soft patent hairs. *Stem* filiform, long-twining, branched with short patent branches, the upper ones especially flowering copiously. *Leaves* one to two inches long, oblong or lanceolate, scarcely petiolate, rather acute, lower ones toothed or subpinnatifid, the rest entire at the margins, smaller upwards. *Peduncles* very slender, terminal and lateral subcorymbose; *pedicels* elongated, filiform, with a small *bract* at the base. *Calyx* of five linear, subulate, erect, distantly-placed *sepals*. *Petals* spathulate, very acute, bright but pale blue, the *claws* erect, the *lamina* spreading. *Stamens* five, much shorter than the petals. *Ovary* cylindrical, stipitate, gradually tapering upwards into a short style. *Stigma* small, capitate, two-lobed.

Fig. 1. Calyx and pistil. 2. Petal. 3. Stamen:—*all magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5522.

DRIMIA altissima.

Lofty Drimia.

Nat. Ord. Asphodeleæ.—Hexandria Monogynia.

Gen. Char. Perigonium corollinum, sexpartitum, *laciniis* æqualibus reflexis, apice cucullatis. *Stamina* 6, basi laciniarum perigonii inserta; *filamenta* basi dilatata, conniventia, tria superiora paullo breviora. *Ovarium* triloculare. *Ovula* plurima, biseriata, horizontalia, anatropa. *Stylus* rectus, trigonus; *stigma* obtusum, muricatum. *Capsula* membranacea, acute triquetra, apice loculicido-dehiscens. *Semina* pauca, subglobosa. — Herbæ *Capenses*, *bulbosæ;* foliis *radicalibus oblongo-linearibus;* racemo *scapum (sæpius præcocem) terminante, simplici;* pedicellis *unibracteatis. Endl.*

Drimia *altissima;* bulbo parvo oblongo-ovato squamoso, foliis bipedalibus scapo coætaneo multo brevioribus lingulato-lanceolatis obtusiusculis lævibus, scapo 4-pedali apice multifloro, pedicellis horizontali-patentibus semiunciam longis, bracteis lineari-subulatis æquilongis, sepalis viridibus uniformibus dimidio superiore insigniter subspiraliter retroflexis, filamentis elongatis in tubum approximatis.

The Cape genus *Drimia* of Jacquin, like many other Asphodeleous genera, has its characters very vaguely expressed, and Professor Kunth remarks of it: "*Lachenaliam* cum *Scilla* jungit, huic ob semina affinior;" yet this latter author has separated his new genus *Idothea* from it, and it is difficult to say to which of the two our present species should be referred. It is quite different from any in either genus, and remarkable for its great size, large and copious green flowers, and the great length of the bracts, much exceeding the flowers before their expansion. It is a native of Natal, and we owe the possession of it to our valued friend John Sanderson, Esq., of D'Urban. It is certainly the finest of all the *Drimias.*

Descr. *Bulb* scarcely larger than a pigeon's egg, tunicated with the bases of old fallen leaves. *Leaves* one to one and a half feet long, nearly erect, attaining their perfect size before the

withering of the flowers, lingulate-lanceolate, rather obtuse, nearly two inches wide in the broadest part, destitute of striæ, subglaucous green. *Scape* four feet long, singularly erect, terete below, furrowed above. *Raceme* a span long, cylindrical, densely crowded before the flowers expand. *Flowers* large for the genus, pale green. *Pedicels* horizontally patent, one and a half inch long, strict. *Bracteas* solitary, subulate-lanceolate, equal in length to the fully-developed pedicel, much longer than the flower-buds (their pedicels included). *Sepals* narrow, oblong, connivent and connate below into a tube, the upper half singularly and subspirally retroflexed. *Stamens* very prominent; *filaments* approximate into a tube, white, pinkish below; *anthers* pale yellow, elliptical. *Ovary* oblong-ovate. *Style* columnar, longer than the ovary. *Stigma* obscurely three-lobed.

Fig. 1. Flowering specimen,—*on a much reduced scale.* 2. Flower. 3. Pistil. 4. Section of an ovary:—*magnified.* The rest of the figure represents the upper portion of a raceme and that of a leaf,—*both nat. size.*

1.

Tab. 5523.

PHALÆNOPSIS Lüddemanniana.

M. Lüddemann's Phalænopsis.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 5351.)

Phalænopsis *Lüddemanniana*, aff. Sumatranæ, *Korth. et Rchb. fil.* (zebrinæ, *H. Bog.*) *et* violaceæ, *Teijsm. et Binn.*; sepalis oblongis acutis, petalis subminoribus, labello ab ungue lato tripartito, laciniis lateralibus ligulatis apice exciso bidentatis, extus oblique carinatis, erectis, laciniâ mediâ ab ungue angusto oblongâ ante apicem angulatâ seu serrulatâ, fornicatâ, apiculo sursum inflexo, squamulis seriatis in disco inter lacinias laterales, callis forcipatis duobus antepositis, carinâ serrulatâ in basi ac in apice laciniæ anticæ, pilis multis antice circumjectis, columnâ utrinque supra basin angulatâ. *Reichenbach, fil.*

Phalænopsis Lüddemanniana. *Rchb. fil. in Gardeners' Chron., May*, 1865.

This beautiful plant is a native of the Philippines, whence it was sent to Messrs. Hugh Low and Co., of Clapton, who being unable to distinguish it in habit from the old *Phalænopsis equestris* (*P. rosea*), disposed of several plants of it to their customers under that name. Several of these flowered simultaneously this spring, and no fewer than four of them were exhibited at the same time at one of the Tuesday meetings of the Royal Horticultural Society at South Kensington. These came from the collections of Mr. Day, Mr. Marshall, Dr. Patteson, and Messrs. Low, it has also appeared in that of Mr. Wentworth Buller. It appears to be of the very easiest cultivation, but requires a good heat.

Professor Reichenbach, in his very interesting description of the plant (published in the 'Gardeners' Chronicle'), mentions the circumstance of its having been first flowered by M. Lüddemann of Paris (formerly at the head of M. Pescatore's celebrated establishment), to whom the species was dedicated. Professor Reichenbach also observes that he has seen two varieties of this beautiful plant: one of them with the bars on the

petals and sepals altogether cinnamon-colour and to which he gives the name of "*ochracea*;" the other (as in the case of the specimen represented) with the lower bars of a fine amethyst tint which he calls "*delicata*." Our drawing was taken from a specimen exhibited by Mr. Day.

Descr. *Leaves* polished and leathery, from four to six inches or more in length, undistinguishable from those of *Phalænopsis equestris (P. rosea)*. *Flower-stem* very short (for the genus) and few-flowered. *Sepals* and *petals* oblong-acute (the petals being slightly smaller than the petals), white at the margin, but marked with transverse bars, which are generally of an amethyst colour near the base and cinnamon in the upper parts. *Lip* three-lobed, the lateral portions being erect, ligulate, and deeply double-toothed, while the middle lobe is oblong, and near its apex (which is slightly bent inwards) angular and entire or in certain varieties somewhat serrulate; on the disk between the lateral partitions are a series of small scales, with two forceps-like appendages in front. The middle lobe of the lip is intense violet, but there are yellow blotches on the side lobes. *Column* white or violet, with an angular projection near the base on either side.—*J. B.*

Fig. 1. Side-view of lip and column. 2. Front-view of ditto. 3. Pollen-masses:—*all somewhat magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5524.

BERTOLONIA guttata.

Spotted-leaved Bertolonia.

Nat. Ord. Melastomaceæ.—Decandria (vel Octandria) Monogynia.

Gen. Char. Flos 5-merus. *Calycis* campanulati *dentes* tubo sæpius breviores, persistentes. *Petala* obovata obtusa vel apiculata. *Stamina* 10, æqualia vel subæqualia; *antheris* lineari-subulatis, rectis, aut parum arcuatis 1-porosis, connectivo infra loculos non producto, sed postice ad basim antheræ tuberculato. *Ovarium* liberum, subtriquetrum, apice obtuse 3-lobo, profunde umbilicatum, 3-loculare. *Stylus* filiformis, stigmate punctiformi. *Capsula* omnino triquetra, vel potius 3-alata, calyce conformi vestita, apice trigono, umbilicata, 3-valvis. *Semina* ovato-angulata vel irregulariter pyramidata.—Herbæ *austro-Americanæ, in locis humidis umbrosis imove subinundatis crescentes, radice interdum sublignosa, caule scapiformi,* foliis *late cordiformibus vel suborbiculatis rarius obovatis,* floribus *sæpius in racemos scorpioides dispositis, albis roseis aut purpurascentibus. Naud.*

Bertolonia *guttata;* radice lignosa longe repente caudiciformi, caulibus erectis subsimplicibus spithamæis parce stellatim pubescentibus obtuse quadrangularibus, foliis glabris longe petiolatis ovatis acutiusculis quinqueveniis, basi obtusis, marginibus integerrimis vel suberoso-dentatis, subtus purpureis, supra intra venas albo vel roseo maculatis, pedunculo subterminali foliis multo breviore, cyma 5–10-flora, calyce turbinato piloso glandulosa, limbi lobis rotundatis demum scariosis, hic illic dorso margineque remote dentato-pilosis, petalis roseis.

A flowering specimen of this most lovely Melastomaceous plant was received from Messrs. Veitch, of the King's Road Nursery, Chelsea, in May of the present year, as a native of Madagascar,—incorrectly, perhaps, so labelled, for we know of no true species of *Bertolonia* having been detected in Madagascar, but we have beautiful samples identical with this in our herbarium, collected at St. Sebastian, Brazil, by the late Mr. Fox (n. 89), and again from the Province of St. Paul, South Brazil, collected by Mr. Weir, in 1861–2 (n. 40). It appears to be quite undescribed, and is, so far as we know, peculiar to Brazil. Three species of the genus only are described by Naudin,

to which he adds seven others ("sed quædam incertæ"), including the *B. maculata* of Martius, which we had supposed to be identical with our *B. maculata*, given at Tab. 4551 of this Magazine.

Descr. Our native specimens exhibit a rather long, creeping *root*, thick as a goose-quill, resembling the caudex of some Fern, and having woody, fibrous *radicles* about the base. *Stem* erect, a span long, obtusely quadrangular, and slightly stellato-pubescent, simple, or rarely subramose. *Leaves* long-petioled (*petioles* two and a half to three inches long), submembranaceous, ovate, five-veined, subacute, slightly tapering at the apex, dark-green above (young ones deeply suffused with rose); between the five parallel veins or ribs, one to three in each *areole* formed by transverse *veinlets*, are lines of very clear, distinct spots of white, or more frequently rose-colour, in one or two series; beneath, of a uniformly purple colour. The spots on the upper side are subrotund or oval, and clearly defined, almost appearing as if studded with rubies. The margin of the foliage is entire, or obscurely crenato-dentate. *Peduncle* short, terminal, or axillary from the superior leaves, bearing a *cyme* of few, five to ten, flowers. *Calyx*, including the inferior ovary, piloso-glandulose, the limb of four or five broad, subrotund, erect, obtuse or retuse lobes; with a few spinous or hair-like teeth on the back, or at the margin. *Petals*, four or five, obliquely obovate, rose-colour. *Anthers* of the *stamens* opening with one pore, yellow. *Ovary* with four, broad, pointed, erect *scales* at the base of the [columnar] *style*. *Stigma* obtuse.

Fig. 1. Calyx and pistil, the style with four scales at its base. 2. Petal. 3. Stamen:—*magnified*.

Erratum *in the Account of the* Fourcroya longæva, *given in our last Number, Tab.* 5519.

Our old and valued friend James De Carle Sowerby, Esq., Secretary to the Royal Botanic Society of London, Regent's Park, informs us that our Fig. 1 (reduced figures of the flowering plant, confessedly copied from Karwinski and Zuccarini's plate) does not accurately represent the racemes of flowers, as observed in the Regent's Park plant,—being too compound, and of too feathery a character. Further, that Mr. Reid, not Mr. Robinson, had the charge of the conservatory in which the flowering of the plant was so successfully accomplished. We learn, too, that no seeds were produced, but a large crop of leaf-buds or gemmæ from the branches of the panicle, several plants of which were kindly sent to Kew.

W. Fitch, del. et lith

Vincent Brooks, Imp.

Tab. 5525.

SCUTELLARIA aurata; var. *sulphurea*.

Golden Scutellaria; sulphur-flowered var.

Nat. Ord. Labiatæ.—Didynamia Gymnospermia.

Gen. Char. (*Vide supra*, Tab. 5439.)

Scutellaria *aurea;* herbacea, subpubescens, caule tetragono; foliis sublonge petiolatis ovatis obtuse acuminatis, basi auriculato-cordatis, lobis approximatis integerrimis vel obsolete remote denticulatis, floribus in racemum terminalem numerosis erectis, pedicellis brevibus calycibusque viridibus basi bracteatis, bracteis linearibus reflexis, corollis longissimis flavidis, tubuloso-infundibuliformibus sursum paululum curvatis, gynophoro elongato.

Scutellaria aurata. *Ch. Lem. in Illustr. Hortic.* 9. (1862), *t.* 368.

β. sulphurea; floribus minoribus pallide sulphureis.

A Brazilian species, native of Pará, where it has been discovered by M. Baraquin, and transmitted by him to M. Verschaffelt's establishment in Holland in 1861, and by the latter gentleman obligingly communicated to Kew in 1864. The species is remarkable for the deep (scarcely "golden") yellow, or pale sulphur-colour of the flowers. But in general structure of the flowers, and even of the foliage, there is a great similarity with our *Scutellaria Costaricana*, figured at our Tab. 5439, especially in that state of *aurata* figured by M. Lemaire; but in *S. Costaricana*, besides the rich scarlet colour of the flowers, the stem, pedicels, and calyx are purple, the leaves are auriculato-cordate at the base, rather strongly serrated at the margin, and the gynophore of the ovary is very short and globose. Our living plant of *aurata* produced smaller flowers, and those not full yellow, but pale sulphur-coloured.

Descr. *Stem* a foot or a foot and a half high, square, green, slightly pubescent, as is the whole of the plant, the flowers most so. *Leaves* opposite, three to four inches long, petiolate, somewhat

deflexed, ovate, bluntly acuminate at the apex, the base rather deeply auriculato-cordate, the *lobes* approximate, the margin entire, or obscurely and remotely denticulate. *Veins* few, remote, oblique, mostly simple. *Petioles* one to two inches long. *Raceme* terminal, solitary, straight, bearing numerous *flowers* on short *pedicels*, bracteated at the base; *bracteas* small, linear, recurved. The *raceme*, when the flowers are all developed, attain a height of six to eight inches. *Calyx* green, formed as in the genus. *Corolla* one and a half to two inches long, erect, deep fulvous or (in our var.) sulphur-coloured; with a deeper yellow tinge about the faux; *tube* narrow, elongate, infundibuliform; *upper lip* helmet-shaped, three-lobed, covering the faux, *lower lip* patent, broad ovate, emarginate. *Stamens* and *style* included. *Ovary* small, deeply four-lobed, situated at the apex of a large, fleshy, elongated, curved *gynophore*, tapering upwards. *Style* filiform.

Fig. 1. Flower,—*magnified*. 2. Pistil,—*magnified*.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5526.

PSAMMISIA longicolla.

Long-necked Psammisia.

Nat. Ord. Ericaceæ.—Decandria Monogynia.

Gen. Char. *Calyx* urceolato-campanulatus; *limbo* cupuliformi breviter et lato 5-dentato. *Corolla* tubulosa, basi ventricosa, *limbo* 5-fido. *Stamina* 10, distincta, inclusa, æquilonga. *Antheræ* biloculares, oblongo-lineares, apice breviter bifidæ, dorso supra medium affixæ, basi liberæ, scabræ, alternatim latiores, subinde ad apicem connectivi dentibus 2 divergentibus auctæ, angustiores semper edentulæ; *tubulis* lævibus, *anthera* ipsa brevioribus, apice foramine dehiscentibus. *Filamenta* lata, brevia. *Ovarium* 5-loculare, *loculis* multiovulatis. *Stylus* filiformis, strictus, plerumque exsertus. *Stigma* obtusum. *Bacca* coriacea, subexsucca, 5-locularis, calycis limbo cupuliformi 5-dentato coronata, *loculis* polyspermis; *placentis* in axi centrali versus apicem sitis, pendulis.—Frutices *Americani, ramosi;* foliis *coriaceis,* 3–5–7–*plurinerviis magnis;* racemis *axillaribus, robustis, corymbosis solitariis, tegmentis destitutis;* pedicellis *robustis, sensim incrassatis, apice articulatis,* bractea *parva squamiformi suffultis;* calycis limbo *cupulæformi, coriaceo. Kl.*

Psammisia *longicolla;* ramis teretibus, foliis brevipetiolatis coriaceis ellipticis acuminatis subdistichis 3–5-nerviis, racemis brevibus axillaribus subglomeratis pendulis, floribus lævibus, ovario basi bibracteato, corolla lagenæformi, tubo urceolato rubro, collo elongato contracto limboque viridibus.

A very charming Ericaceous plant of South America, but from what precise locality is not known, for a living plant of which we are indebted to the liberality of James Bateman, Esq. This we have referred to *Psammisia,* rather than to *Thibaudia,* on account of its near affinity with *Psammisia penduliflora,* Kl. (*Thibaudia,* De Cand.), given at our Tab. 5204. Indeed, we do not clearly see the reason for the formation of the genus *Psammisia*; but if the genera of this Vaccineous group of *Ericaceæ* are hard to determine, much more is it hard to determine the limits of the species, especially since most of them are described from dried specimens, when the flowers become much changed

by desiccation. Hence the importance of securing figures from living plants. Hence it will be seen that while in *P. penduliflora* the whole flower is more or less furfuraceo-scabrous and the corolla short, in our *P. longicolla* the flower is quite smooth (*lævis*) and the corolla elongated and suddenly contracted into a distinct neck between the swollen portion of the tube and the limb. In both the corolla is two-coloured, red for the greater part of the length, then suddenly green.

Descr. A straggling *shrub* of a few feet in length, with glossy coriaceous *leaves*, three or four inches and more in length, shortly petioled, much acuminated, entire, three- to five-veined, with veins connected by fine transverse veinlets (as in many *Melastomaceæ*). *Racemes* short, axillary, glomerate, drooping, partially bracteolated. *Pedicels* fleshy, thickened upwards, so as to be almost clavate. *Ovary* jointed upon the pedicel, globose, smooth, having two ovate *bracts* at the base; free portion of the *calyx* cup-shaped, with five short, erect, acute *lobes*. *Corolla* bottle-shaped, the wide and longest portion of the tube scarlet, the column or neck much contracted, and green as are the five subtriangular and somewhat spreading *lobes* of the *limb*. *Stamens* large, but quite included. *Filaments* short. *Anthers* tapering into two erect, tubular *horns*, opening by a longitudinal pore or slit.

Fig. 1. Flower with a pair of bracts at the base. 2. The same with the calyx and stamens removed. 3. Single stamen :—*all magnified.*

Erratum.—In the specific character of *Phalænopsis Sumatrana* (Tab. 5527), for *P. Schilleriana* read *P. Sumatrana*.

Tab. 5527.

PHALÆNOPSIS Sumatrana.

Sumatra Phalænopsis.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 5351.)

Phalænopsis *Schilleriana*; foliis acutis, pedunculo plurifloro, sepalis oblongis acutis extus non carinatis, petalis cuneato-ligulatis acutis, labello brevi unguiculato tripartito, laciniis lateralibus ligulatis, apice retuso-denticulatis, retrorsum falcatis, extus oblique carinatis, laciniâ mediâ ligulato-panduratâ fornicatâ carnosâ, basi implicitâ, per lineam mediam carinatâ, antice dense pilosa, ligulis forcipatis duabus deinceps inter partitiones laterales, columnâ semitereti panduratâ, androclinio cucullato denticulato. *Rchb.*

Phalænopsis Sumatrana. *Korthals, Rchb. fil. in Otto, Hamb. Gartenzeit.* 1860, 115, *alias* P. zebrina, *Hort. Bog. in Annales d'Hortic. et de Bot. ou Flore des Jardins du Royaume des Pays-Bas*, 1860, *fasc.* 10, *cum ic.*

P. zebrina *in Plantæ Nov. in Hort. Bog. Cultæ, auct. T. E. Teijsman et Binnendijk*, 1863, 15.

An interesting account—for which we are indebted to Professor Reichenbach—of this remarkable Phalænopsis appeared in the 'Gardeners' Chronicle,' the first week of last June. From this we learn that the species is a native of the province of Palembang, in Sumatra, where it was originally discovered by Korthals, more than a quarter of a century ago. By him it would seem to have been sent to the Botanic Garden at Leyden, where it flowered about the year 1856, and where an imperfect figure—subsequently published in the 'Annales' as *P. zebrina*—was prepared. But although long since introduced to Continental collections, the species was never seen in this country before the spring of the present year, when it flowered beautifully in the collection of Mr. Day, who exhibited at South Kensington the specimen from which Mr. Fitch's drawing was taken.

Professor Reichenbach remarks that the *anther*-lid is fringed after the manner of *Trichopilia*, and that the *apex* of the *lip* is

furnished with "hairs quite as dense as in a good hat-brush." It is as easily managed as any of its congeners.

Descr. *Leaves* pointed, about six inches long. *Flower-spike* about the length of the leaves, five- to ten- flowered. *Sepals* oblong, pointed, not carinate, an inch or more long. *Petals* more cuneate than the *sepals*, which they otherwise resemble, both in form and colour, the latter being yellowish-white, barred with broad streaks of rich reddish-brown. *Lip* short, unguiculate, three-lobed, the lateral portions meeting in front and stretching backwards, in which direction they end in a sort of curved tooth; the middle portion, which is pressed closely together at the base, is fleshy throughout, and very hairy in front, of an oblong or slightly panduriform shape, carinate along its centre line, and provided with two slender, sharp, upright processes at the point of its junction with the lateral lobes. In colour the *lip* is white, with orange spots on its side partitions, and four lines of violet (or in some varieties lilac) streaks along its central lobe. *Column* white, semiterete, rather fiddle-shaped, with its *anther*-lid fringed.—*J. B.*

Fig. 1. Side view of column and lip. 2. Front view of ditto:—*both slightly magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp

Tab. 5528.

PRIMULA CORTUSOIDES; var. *amœna*.

Cortusa-leaved Primrose; deep-coloured var.

Nat. Ord. Primulaceæ.—Pentandria Monogynia.

Gen. Char. Calyx subcampanulatus vel tubulosus, plus minus profunde 5-dentatus vel etiam 5-fidus. *Corolla* hypocraterimorpha vel infundibuliformis, limbo 5-fido, lobis plerumque emarginatis, *fauce* ad limbum dilatata, *tubo* tereti calycem æquante aut superante. *Stamina* inclusa. *Filamenta* brevissima. *Antheræ* sæpe acuminatæ. *Ovarium* globosum aut ovato-globosum. *Ovula* 00, peltatim amphitropæ. *Capsula* ovata, 5-valvis, *valvulis* integris aut bifidis apice tantum dehiscentibus, *seminibus* minimis numerosis.—Herbæ, foliis *plerumque radicalibus*; scapo *simplici*; floribus *umbellatis involucratis, rarius verticillatis, sæpissime speciosis. De Cand.*

Primula (§ Primulastrum) *cortusoides*; foliis petiolatis cordato-ovatis villosis rugosis inæqualiter dentatis subobtusis, scapis villosis 5–00-floris, involucri foliolis lineari-subulatis acutis, pedicellis divaricatis 6° minoribus, calycis suburceolati adpressi striati 5-fidi tubum subæquantis laciniis lineari-lanceolatis acutis, corollæ hypocraterimorphæ lobis late obcordatis marginatis. *De Cand.*

Primula cortusioides. *Linn. Sp. Pl. p.* 206. *Gmel. Fl. Sibir. v.* 4. *t.* 45. *Thunb. Jap. p.* 82. *Bot. Mag. t.* 399. *Andr. Bot. Repos. t.* 7.

β. *amœna*; floribus *duplo triplove* majoribus, colore intense purpureo-roseo. *Tab. Nostr.* 5528.

This extremely handsome state of the well-known *Primula cortusoides* has been recently imported into English gardens from Japan, and our figure is taken from a living plant entrusted to us for the purpose, by Messrs. Veitch, in May of the present year. One has but to compare our present figure with the figures quoted above, or with native specimens from the Russian dominions in our herbaria, to justify the preference that must be given to this variety, on account of the size of the foliage and umbels and flowers, and the deep, almost purple colour of the latter. Thunberg, indeed, in his 'Flora Japonica,' says of the species, "Crescit hinc inde in insula Nipon;" but he adds, "sæpe in hortis culta;" and Dr. Asa Gray, in his 'Japan Collections of

Williams and Morrow,' gives it as an inhabitant of Simoda: but as we have never received it in any of the numerous collections of specimens we have received from Japan, is it not likely, since the Japanese are great gardeners, they may have imported it from Siberia, as they appear to have done the *Primula Sinensis?* At any rate it is a great acquisition to European gardens.

DESCR. *Root* a rather slender horizontal or ascending *rhizome*. *Leaves* all radical, downy, as is all the herbaceous part of the plant, ovate or oblong-ovate, cordate, dark-green above, paler beneath, wrinkled, many-lobed at the margin, the *lobes* acute, toothed. *Petioles* terete, three to four inches long, tufted with scales or bracts at their base. *Scape* longer than the foliage, bearing an *umbel* four to five inches in diameter; the *pedicels* with an *involucre* of several-whorled linear-lanceolate *scales* or *bracteoles* at their bases. *Calyx* rather large, of five deep, ovato-lanceolate, striated *lobes*. *Corolla* hypocrateriform; the *limb* an inch and a half broad, plane, deep purple-lilac, with a white star at the faux; *lobes* of the *limb* deeply obcordate. *Stamens* quite included. *Ovary* globose, surrounded at the base by a hypogynous cup.

Fig. 1. Calyx and pistil. 2. Pistil:—*both magnified.*

2.
3.
4.
5.

Tab. 5529.

LIPARIS atropurpurea.

Dark-purple-flowered Liparis.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Sepala patentia, libera; lateralia basi æqualia, sæpius breviora. *Petala* sepalis angustiora, linearia vel filiformia. *Labellum* ascendens vel erectum, basi cum columnâ paululum accretum, supra basin sæpius bituberculatum, integrum, nunc mucronibus aliquot sed lobis nullis. *Columna* elongata, semiteres, incurva, apice marginata. *Anthera* bilocularis. *Pollinia* 4, collateralia. *Lindl. Gen. et. Sp. p.* 26.

Liparis *atropurpurea;* foliis 2–4 subrotundis acuminatis petiolatis plicatis basi obliquis cucullatis racemo erecto rari-(vel pluri-)floro subæqualibus, scapo tereti, labello oblongo obtuso recurvo crenulato, sepalis lateralibus oblongo-lanceolatis obliquis, petalis longissimis filiformibus. *Lindl. l. c.*

Liparis atropurpurea. *Wight, Icon. Pl. Ind. Orient. v.* 3. *p.* 904.

Although by no means a showy plant, this is by far the most ornamental species of the sombre genus to which it belongs. It is a native of Ceylon, and was sent to Kew, in 1862, from the Botanic Garden at Peradenia, by Mr. Thwaites. Placed at the cooler end of the East Indian house, it flowered finely in June of the present year under the zealous management of Mr. Smith. It is terrestrial, and should be potted in a mixture of peat and loam.

Descr. *Plant* terrestrial, a foot or more high. *Leaves* from two to four, plicated, nearly round, acuminate, petiolate, oblique at the base and somewhat hooded, about equal in length to the *raceme*, which, though few-flowered according to Dr. Lindley's description, was many-flowered in the specimen from which the figure was taken. *Scape* round. *Sepals* oblong-lanceolate, half an inch long, bent slightly backwards. *Petals* long for the genus, stretched out horizontally, waved, and, like the sepals, of a chocolate-purple. *Lip* oblong-obtuse, recurved, crenulate in

Dr. Lindley's wild specimens, but nearly entire in the specimen that flowered at Kew; its colour is a deep rich purple. *Column* half-round, bending inwards, much shorter than the lip, green stained with purple.—*J. B.*

Fig. 1. Front view of flower. 2. Side view of flower. 3. Column. 4, 5. Front and side views of lip:—***magnified.***

Tab. 5530.

PHALÆNOPSIS Schilleriana.

Schiller's Phalænopsis.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 5351.)

Phalænopsis *Schilleriana ;* foliis zebrinis oblongis obtusis paniculâ multiflorâ nutante brevioribus, sepalo dorsali obovato obtuse acuto, lateralibus ovatis acutioribus, petalis rhombeis multo latioribus, labelli lobis lateralibus oblongis ascendentibus, intermedio ovali apice utrinque bifalci, callo quadricorni in basi.

Phalænopsis Schilleriana. *Rchb. fil.* '*Xenia Orchidacea*,' *t.* 101. *Id. in Hamb. Gartenzeitung*, 1860. *p.* 144. *Lindl.* '*Gardeners' Chronicle*,' 1860, *p.* 216 ; 1861, *p.* 617 ; 1862, *p.* 95. *Warner's* '*Select Orchidaceous Plants*,' *pl.* 1. *Lemaire, in Illus. Hort.* 1863, *pl.* 348.

As in the case of the *Phalænopsis* figured at Tab. 5527, the honour of having been the first to introduce and to flower the subject of the opposite Plate rests with the Continental Orchid-growers. And it is one of which they may well be proud, for no species of the lovely genus to which it belongs—no, not even *P. amabilis* itself—can at all be compared with it in beauty. In dedicating it under these circumstances to his distinguished countryman Consul Schiller, of Hamburg, Professor Reichenbach paid a well-merited compliment to one whose collection of Orchids has long been renowned and still maintains its celebrity.

There are many varieties, which differ from each other in the marbling of the leaves, and in the size and tinting of the blossoms. Those which first appeared among us scarcely gave a fair idea of the effect the plant is capable of producing when the best kinds have attained their proper vigour. Mr. Williams, of Holloway, mentions his having imported a plant on which was a native flower-stem that had borne a hundred blossoms, and I have little doubt that—as the plants in our stoves improve every year—at least an equal display will ere long be made in this country.

August 1st, 1865.

As the plant is found at a higher level in the Philippines than *P. amabilis*, it need not be kept quite so warm, but under almost any circumstances it grows well and blooms freely in the winter and spring.

The figure was taken from a glorious specimen that flowered in the nursery of Mr. Veitch in May last. In the size of its blossoms and the delicacy of its tints, this variety eclipses all that have as yet shown themselves.

Descr. *Leaves* from six to eighteen inches long, oblong and coming to a blunt point, beautifully marbled on the upper side with irregular whitish streaks on a dark-green ground, the under side being purple. *Peduncle* one to three feet long, bent downwards, branched, many-(10–100-)flowered, all the flowers being open at the same time. *Sepals* an inch or more long, the dorsal one obovate and rather sharp-pointed, the lateral ones ovate and more acute. *Petals* of a rhomboid form, much wider than the sepals, and, like them, of a rich rosy-lilac colour, becoming fainter or almost white at the edges. *Lip* three-lobed, the lateral lobes white, oblong, rounded, and stretching backwards, with a four-cornered yellow callosity at their base; the middle lobe rosy-lilac, oval, and split at the summit into two slender portions, that diverge from each other and are gracefully curved. *Column* blue, clavate, prolonged, and free at the base. —*J. B.*

Fig. 1. Lip and column :—*slightly magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp

Tab. 5531.

ALSTRŒMERIA DENSIFLORA.

Dense-flowered Alstrœmeria.

Nat. Ord. Amaryllidaceæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 5442.)

§ Bomarea, *caule scandente v. volubili; capsula depresso-globosa. Endl.*—Bomarea, *Mirb., Herbert.*

Alstrœmeria (Bomarea) *densiflora;* caule volubili glabro, foliis ovatis breviter acuminatis subtus pubescentibus umbella multiflora densa, pedicellis pubescentibus raro bracteatis, floribus uncialibus puniceis, petalis lato-spathulatis calyci æquilongis nigro-punctatis, ovario styloque pubescentibus.

Bomarea densiflora. *Herb. Amaryll. p.* 399. *t.* 46. *f.* 4. *Kth. Enum. Plant. v.* 5. *p.* 810.

This richly-coloured *Alstrœmeria* (of the *Bomarea* group) was originally described by Mr. Herbert, from specimens gathered by Mathews in the vicinity of Chachapoyas, in Peru, and distributed with the number 1667. It was also found by Mr. Spruce in the mountains of Pallatanga, in the Andes of Ecuador, at an elevation of from six thousand to eleven thousand feet; and in No. 5545 of his dried specimens he describes it as a slender twining herb of about eight feet, with scarlet flowers, which it is evident are frequently more than twice as numerous in the umbel as they were in the specimen here figured. This was received from Messrs. Veitch, who imported it from Peru through their South American collector, Mr. Pearce.

Fig. 1. Flower with perianth removed, showing ovary, style, and stigma.
2. Petal:—*magnified.*

September 1st, 1865.

Tab. 5532.

HÆMANTHUS INCARNATUS.

Flesh-coloured Hæmanthus.

Nat. Ord. Amaryllideæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 5314.)

Hæmanthus *incarnatus;* foliis recumbentibus amplis obovatis obtusis ciliatis, scapo rubente immaculato, spatha multivalva, foliolis angustis acutis flore brevioribus, perianthii tubo limboque incarnatis, stylo exserto stamina non excedente.

Hæmanthus incarnatus. *Burch. Tab. Pict.* 1818, *ex Herb. Amaryll.* 237. *t.* 31. *f.* 1. *Kunth, Enum. Plant. v.* 5. *p.* 598.

This species has considerable affinity with *H. tigrinus*, figured at Tab. 1705 of this work, but it is a more elegant plant, with broader leaves, the scape more slender, without the spots of *H. tigrinus*, the divisions of the spatha smaller, narrower, and less coloured, the flowers smaller and of a different colour. It was originally discovered in South Africa by the late Dr. Burchell. Our specimen was raised by Wilson Saunders, Esq., of Heathfield, Reigate, from bulbs recently introduced through his collector, Mr. Cooper.

Fig. 1. Flower. 2. Flower with perianth removed:—*magnified.*

September 1st, 1865.

W Fitch, del et lith.

Vincent Brooks, lith

Tab. 5533.

LANKESTERIA Barteri.

Mr. Barter's Lankesteria.

Nat. Ord. Acanthaceæ.—Diandria Monogynia.

Gen. Char. *Calyx* 5-partitus, æqualis, segmentis linearibus. *Corolla* hypocraterimorpha, tubo gracili calycem superante, limbo 5-partito subæquali, lobis æstivatione contortis. *Stamina* 2, versus apicem tubi inserta; *antheræ* biloculares, loculis parallelis. *Ovarium* 4-ovulatum. *Stylus* filiformis. *Stigma* capitatum, subbilobum. *Capsula* pedicellata.

Lankesteria *Barteri;* suffrutex 4-pedalis, foliis ovate oblongis vel oblongo-lanceolatis acuminatis basi angustatis 4–8-uncialibus sparse puberulis demum glabrescentibus, spicis terminalibus simplicibus vel compositis, bracteis imbricatis ovatis acuminatis nervosis puberulis ciliatisque, calycis segmentis anguste linearibus longe ciliatis, tubo corollæ pubescente dimidio brevioribus.

This showy species of *Lankesteria* was sent to us by Dr. Moore, of Glasnevin Gardens, and was raised from seed sent from West Africa by Mr. Milne. It was included by Dr. Anderson under *L. elegans*, T. A. (*Eranthemum elegans*, R. Br.; Nees in DC. Prod. 447), in consequence of Nees omitting to quote the very characteristic plate of that species (t. 50 of the Flore D'Oware). The true *L. elegans* has broader bracts, much shorter and somewhat broader calyx-segments, and a glabrous corolla-tube. There are specimens of it at Kew, collected by Mann. Though the flowers are represented in the Beauvois plate as rose-coloured, it is not unlikely that they are orange, like those of *L. Barteri*, as it is well known that the colours represented in the 'Flore D'Oware' are not to be relied on.

Fig. 1. Flower. 2. Side view of two-celled anther. 3. Ovary, style, and stigma :—*magnified.*

September 1st, 1865.

Tab. 5534.

EUPHORBIA Monteiri.

Mr. Monteiro's Euphorbia.

Nat. Ord. Euphorbiaceæ.—Monœcia Monandria.

Gen. Char. Involucrum subregulare, campanulatum, turbinatum vel hemisphæricum; lobis 5 (rarius 4–8) primariis membranaceis, 5 aliis (rarius 8) secundariis alternantibus glanduliferis, glandulis abortu interdum 1–4. *Flores masculi* pedicellati, ecalyculati, bracteolis ciliato-laceris interdum obsoletis basi stipati, in series quinas (rarius 4–8) lobis primariis involucri oppositas dispositi. *Flos fœmineus* centralis, pedicellatus, calyce 3–6-lobo suffultus, sæpius ecalyculatus. *Styli* tres, distincti, vel plus minus coaliti, bifidi, lobis apice vel latere interiore stigmatosis. *Semina* pendula, cum vel absque caruncula.—Plantæ *in toto orbi terrarum crescentes, in temperatis et calidioribus frequentiores. Boissier in DC. Prod.* xv.

Sect. XX. Euphorbium.—*Folia* sparsa vel obsoleta, floralia opposita vel ternata. *Stipulæ* nullæ. *Cymæ* axillares vel supra-axillares, interdum terminales. *Glandulæ* exappendiculatæ.—Frutices, *rarius* herbæ, *gerontogei, carnosi, tuberculati vel costati;* pedunculis *interdum spinescentibus. Boiss. l. c.*

§ 2. Glandulæ involucri bilabiatæ, labio interiori brevissimo vel obsoleto, exteriori margine palmatifido.

Euphorbia *Monteiri;* trunco lignoso forsan arborescente cortice cinereo, ramis adscendentibus carnosis cylindricis vel clavatis podariis numerosis obtuse conicis $\frac{1}{2}$–1 unciam altis junioribus viridibus, adultis cinerascentibus in trunco evanidis; foliis carnosis glaberrimis ad apicem ramorum supra podaria insertis, anguste spathulatis obtusis et minute mucronulatis vel interdum retusis cum petiolo 4–8 uncias longis $\frac{3}{4}$–1$\frac{1}{4}$ latis; ramulis floriferis fere bipedalibus, ex axillis foliorum superiorum gracilibus carnosulis foliosis paucifloris, foliis sensim minoribus, sine podariis, superioribus sessilibus, umbellæ radiis 3 foliis 3 sessilibus deltoideis vel ovato-lanceolatis suffultis, foliis floralibus late deltoideis basi subcordatis involucri hemisphærici lobis ovalibus dense ciliatis, glandulis carnosis, labio superiore minuto calloso, inferiore crasse carnoso rubro-fusco ad medium in processus 4–5 apice glandulosos diviso, stylis ultra medium coalitis.

This very remarkable species of *Euphorbia* was sent to Kew, in 1864, by Joachim Monteiro, Esq., the eminent and indefatigable zoologist, to whom the Royal Gardens are indebted for many valuable contributions from South West Africa. The

drawing, which was made in June, shows the earliest stage of the inflorescence, when a single involucre terminates each flowering branchlet. The plant is still in flower in the Cactus-house, and now each branchlet bears an umbel of three rays. The plant is especially remarkable for the curious successive productions of the staminate flowers, of which one or two appear the first day and wither away, to be succeeded next day by about four more; when these have withered, several more appear in succession on the third and fourth days.

Fig. 1. Greatly reduced drawing of whole plant. 2. Part of a flowering branchlet. 3. Leaf of barren branch with its podarium: —*nat. size*. 4. Involucre. 5. Stamen and fimbriated scale:—*magnified*.

W. Fitch, del. et lith.

Vincent Brooks, Imp

Tab. 5535.

CALATHEA Veitchiana.

Mr. Veitch's Calathea.

Nat. Ord. Marantaceæ.—Monandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4973.)

Calathea *Veitchiana;* acaulis, cæspitosa, foliis petiolatis ellipticis v. ovato-ellipticis obtusis v. obtusiusculis glabris, petiolo pilosulo, scapo firmulo foliis breviore, spica terminali obovoidea, bracteis numerosis undique arcte imbricatis ovatis obovatisve extus adpresse pilosis superioribus vacuis glabratis patentibus, perianthii interioris tubo incluso, limbo parvo, lobo antico (labello) rotundato-obovato emarginato pallide purpureo cæteris flavido-viridibus.—*Forma:* foliis supra maculis læte viridibus lunatis notatis.

Calathea Veitchiana. *J. Veitch, mss.*

Of the tribe of the Arrowroots (Marantcæ), so remarkable for the beauty of their ample foliage, there are few species, if any, which can take higher rank in ornamental culture than the subject of this Plate, one of two apparently undescribed species recently forwarded to us in flower by Messrs. Veitch, and obtained by their collector, Mr. Pearce, in Western Tropical South America.

C. Veitchiana, with its sceptre-like scape and dense flower-head, the bracts imbricated all round, belongs to the same section of the genus (*Pseudophrynium*, Körnicke) as the old *Calathea* (formerly *Maranta*) *zebrina*. It differs from any of its congeners known to us in having several of the rather large upper bracts empty as in *Eucomis*, and from its nearest allies in the form and colour of the perianth, of which unfortunately we do not possess the material to enable us to give a detailed description of the inner segments and adherent staminodia. This species is named by Mr. James Veitch in remembrance of his late father, "with whom it was a great favourite."

Descr. The large petiolate radical *leaves* are more or less ovate-elliptical, scarcely or but shortly pointed, broad and rounded at the base, glabrous on both sides, marked above on each side

of the midrib with large, crescent-shaped, connected, dark-green blotches, having their concave sides towards the midrib, which the cusps nearly or quite reach. Toward the margin the leaf is similarly deeply-coloured; *petioles* very slightly hairy. *Scape* tolerably firm, about as thick as a goose-quill, cylindrical and minutely hairy, shorter than the leaves. *Spike* two to three inches long and about two inches in diameter; *bracts* rather closely imbricated in the lower part of the spike with more or less spreading tips, the upper part on the outside thinly clothed with long loosely appressed hairs, the upper bracts empty and spreading, coloured reddish beneath towards the apices. *Flowers* small, in fascicles of three to six in the axils of the bracts, subtended by oblong or linear-oblong membranous *bracteoles*. *Calyx-limb* of three equal linear segments, shorter than the tube of the corolla, but several times longer than the ovary. *Perianth-tube* included, *limb* exserted; *labellum* blotched with pale-purple, *posterior segment* and *staminodia* pale greenish-yellow.

Fig. 1. Fascicle of flowers and buds with their bracteoles taken from the axil of a bract. 2. Single flower from behind. 3. Stamen and stigma :—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5536.

DIANTHUS Chinensis, var. laciniatus.

Indian Pink, var. with deeply-cut petals.

Nat. Ord. Caryophyllaceæ.—Decandria Digynia.

Gen. Char. (*Vide supra*, Tab. 2744.)

Dianthus *Chinensis*. (*Spec. Char. vide supra*, Tab. 25.)

D. Chinensis, L., var. *laciniatus*, Regel, "corolla maxima in diametro 4 pollices latiore, petalis cuneatis apice fimbriato-laciniatis basi elongata cuneata integerrima." *Gartenflora*, 1858, *p.* 8. *t.* 219. *Fl. des Serres*, *t.* 1289.
D. cincinnatus. *Lem. L'Illust. Hort.* xi. *t.* 388.

It is not a little remarkable that of the beautiful genus *Dianthus* not a single species has been figured in the 'Botanical Magazine' since the year 1827. Nor does our annexed Plate represent either a new species or even a species figured for the first time in this series. There can be no doubt of the specific identity of the gay plant on the opposite page, bearing flowers four inches in diameter, with the modest little Indian Pink figured in the first volume of the 'Botanical Magazine' (Tab. 25). The differences between these extreme forms, though perhaps even more marked, are altogether analogous to those which obtain between the figures, dated respectively 1804 (Tab. 758) and 1854 (Tab. 4816) of *Kniphofia Uvaria*. They are differences which, we have evidence to show, are due to the continued influence of rich soil or to the skill of cultivators through some other medium. The favourite Indian Pink appears, like the *Zinnia*, after long cultivation in Europe and Japan, to have broken out into several very striking varieties, well worthy of the attention of our florists. Of the more remarkable forms several have been carefully described and figured in Regel's 'Gartenflora' (Tabb. 216, 240; see also Fl. des Serres, 1150 and 1288), and it is to the form which Dr. Regel distinguishes as *D. Chinensis-laciniatus*, that the plant here figured by Mr. Fitch belongs. The tendency to variation is by no means confined to

the petals, which may be either simply dentate or very deeply laciniate. The bracts surrounding the base of the tubular calyx, the relative length of which organs is so often employed as a tributary specific character in the genus, vary also very much, and in a few flowers now before us, we find them varying from ovate-cuspidate and but half the length (or less) of the calyx, to linear-acuminate equalling or sometimes considerably exceeding the calyx. The form and direction of the leaves is also variable. The case is one which it might be advantageous to study carefully with a view to the general principles which govern variation in plants.

Descr. *Stems* decumbent or ascending, six inches to one foot or more in height, usually branching, glaucous. *Leaves* linear to linear-lanceolate, acuminate, entire, glabrous and glaucous, or very minutely scabrid-puberulous, denticulate-ciliolate. *Flowers* very large, terminal, solitary, from white or pink to crimson, or variously blotched. *Bracts* ovate-cuspidate, much shorter than the calyx, to linear-acuminate, exceeding it in length. *Lamina* of the *petals* cuneate, deeply fimbriate. *Stamens* and *style* varying in relative length in different plants (owing to a dimorphic condition carried to an extreme in some unisexual species of the same Order).

W.Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5537.

DENDROBIUM Tattonianum.

Lord Egerton of Tatton's Dendrobe.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4755.)

Dendrobium *Tattonianum*; caulibus fusiformibus, racemis sparsifloris, foliis angustis carnosis acutis longioribus, bracteis triangulo-setaceis ovariis pedicellatis multo brevioribus, sepalis ligulatis subacutis, mento parvo obtuse conico, petalis a basi angustissimâ dilatatis ligulatis subacutis paulo longioribus, labello longe cuneato antice trifido laciniis lateralibus triangulis antice obtusangulis, laciniâ mediâ semiovatâ apiculatâ, venis in laciniis lateralibus carinulato-incrassatis, carinis lobulatis ternis antice inter lacinias laterales in disco laciniæ anticæ in lamellas rhombeas dorso crenulatis exeuntibus, columnâ apice tridentatâ, antherâ velutinâ. *Reich. fil. (conf. D. æmulum, R. Br.)*

Dendrobium Tattonianum. *Bateman mss. Gard. Chron. Sept.* 23, 1865.

This very remarkable *Dendrobe* is a native of North Australia, where it was recently discovered, at no great distance from the coast, by Mr. J. G. Veitch, who sent it to his father's establishment at Chelsea in the spring of the present year. The plants of this and of another species figured in a subsequent Plate (Tab. 5540), arrived in such excellent condition that they have already flowered freely both in the Exotic Nursery and in the collection of Lord Egerton of Tatton. The species being quite new, I gladly availed myself of the opportunity of dedicating it to the latter nobleman, whose collection of Orchids is exceedingly rich and admirably grown. The species has a pleasant smell, and continues in beauty for two months. Like *D. bigibbum*, from the same country, it is very easily cultivated.

The specific character is from the accurate pen of Professor Reichenbach, to whom, as well as to myself, flowering specimens were sent.

October 1st, 1865.

Descr. *Pseudobulbous stems* fusiform or pear-shaped, two or three inches high, and bearing four or five narrow fleshy sharp-pointed leaves, which are at least twice as long as the swollen stems. From the side near the apex of the latter arise the flower-stalks, which are stiff and erect, about a foot high, and terminated by a dozen or more loosely distributed *flowers*, to which the yellow and white sepals and petals and the mauve lip give a very peculiar appearance. *Bracts* small, triangular, bristle-pointed, not a quarter the length of the ovary. *Sepals* ligulate, somewhat acute, forming at their base a short, blunt, conical mentum or chin. *Petals* very narrow at the base, and slightly longer but otherwise nearly of the same shape as the sepals, and, like them, white tipped with yellow. *Lip* white at the edges and extremities, but deep mauve on its disc, of a prolonged wedge-shaped form, and divided in front into three lobes, of which the lateral lobes are of a somewhat triangular shape, and blunt, while the central lobe is semi-ovate and apiculate; along the centre of the lip run keel-like elevated veins, which terminate (on the central lobe) in three crenulated rhomboid plates. *Column* three-toothed at its apex, with a velvety *anther*.—*J. B.*

Fig. 1. Column. 2. Pollen-masses. 3. Front view of lip. 4. Side view of ditto:—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5538.

STACHYTARPHETA BICOLOR.

Two-coloured Bastard-Vervain.

Nat. Ord. Verbenaceæ.—Diandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4211.)

Stachytarpheta *bicolor;* suffruticosa, foliis ovatis v. ovato-lanceolatis acutis serratis basi in petiolum brevem angustatis glabris, spicis sublaxifloris, bracteis subulatis acutis, corolla tubuloso-infundibuliformi calyce duplo longiore, tubo infra medium abrupte curvato atque angustato, limbo breviter recurvo, germine basi gibboso.

Though less effective than *S. aristata* (Bot. Mag. Tab. 4211), this interesting species has the advantage of many of its weed-like congeners in the comparatively great length of its corolla, which is moreover of an unusual colour. On emerging from the bud of a deep purple, it soon acquires a peculiar greenish-blue, the throat remaining white. It is further remarkable in the form of the corolla, which is funnel-shaped, with a very short spreading limb, and not hypocrateriform or salver-shaped, as is usual in the genus. The specimen from which our figure was drawn developed its flowers on the passage home from Bahia, whence it was forwarded to us by our excellent correspondent C. H. Williams, Esq.; and it is just possible the unusual colour of its flowers may have something to do with the circumstances under which they were produced. Although there are thirty-five species of *Stachytarpheta* described from Brazil, our friend M. Bocquillon, who has made the *Verbenaceæ* his special study, and who happens to be by us as we prepare this for press, is unable to refer this plant to any of them, so that we have no alternative but to publish it as new.

Descr. *Leaves* varying from ovate to ovate-lanceolate, acute, serrate from a little above the base, which, in the broader leaves, is rather abruptly or cuneately narrowed into the *petiole*, gla-

brous or nearly so. *Spike* terminal, slender, exceeding the leaves; *bracts* subulate, erect, rather distant or subimbricate. *Calyx* (described from the drawing) tubular, very shortly split on one side, the apex bifid. *Corolla* narrowly infundibuliform, the *tube* narrowed and rather sharply curved to one side a little below the middle; *limb* short, spreading or slightly recurved, the four broader lobes broadly rotundate, somewhat pointed. *Stamens* two, perfect, inserted near the top of the tube. *Ovary* with a thickened, lateral gibbosity or gland, tapering into the long, filiform, but scarcely exserted *style*. *Stigma* capitate.

Fig. 1. Single flower, removed. 2. Calyx and style. 3. Corolla, laid open. 4. Ovary. 5. Stamens and staminodia.

W. Fitch, del. et lith.

Vincent Brooks Imp.

MESEMBRYANTHEMUM ACINACIFORME.

Scimitar-leaved Fig-Marigold.

Nat. Ord. Ficoideæ.—Icosandria Polygynia.

Gen. Char. (*Vide supra*, Tab. 2144.)

§ Acinaciformia (Salm-Dyck). Caules fruticosi, validi, angulares, decumbentes. Folia connata, triquetra, acinaciformia, crassa, lævia. Flores speciosi, solitarii, rubicundi aut flavi. Calyx 5-partitus, lobis inæqualibus. Stigmata 6–10. Fructus carnosus.

Mesembryanthemum acinaciforme; foliis compresso-triquetris sursum incrassatis acutis vel acutiusculis, carina marginibusque integris v. undulato-serrulatis, pedunculis bibracteatis petalis purpureis, stigmatibus ad 14.

Mesembryanthemum acinaciforme. *Linn. Sp. Pl.* 695. *Dill. Hort. Elth. f.* 270–271. *Andr. Rep. t.* 508. *De Cand. Pl. Grasses, t.* 89. *Salm-Dyck, Monog.* § 19. *t.* 6.

M. lævigatum. *Haw. Syn.* 233.

M. rubrocinctum. *E. et Z., Bot. Reg.* 1732.

M. subalatum. *Haw. Syn.* 235.

Dr. Lindley, speaking of *Mesembryanthemum rubrocinctum* (Bot. Reg. 1732), which is a mere variety of this species, remarks, that it may perhaps be considered the finest of the extensive genus to which it belongs. Few things can be more effective than a well-disposed patch of this plant. It is an old inhabitant of gardens in the south-west of England, and well known in many out-of-the-way places, but by no means so generally as it deserves. It is with a view to draw attention to it and to its congeners, which have been too much neglected of late years, that we have had figured this species from a plant grown in the Scilly Islands, obligingly sent to us by A. Smith, Esq., M.P. It is a native of the Cape of Good Hope,—the head-quarters of the Fig Marigolds,—growing, according to Dr.

Sonder ('Flora Capensis,' v. 2. p. 412, whence we have obtained the above synonymy), on the sandy flats near Cape Town, etc. *M. rubrocinctum* differs from our variety solely in the trivial character of a frequent red line along the leaf-margins. The fruit is said to be eatable.

Descr. *Stem* two to four feet, procumbent, pointed, the young shoots compressed and angular. *Leaves* two to three inches long, about three-quarters of an inch in thickness a little above the middle, triquetrous, pointed, and more or less narrowed to the base, where the opposite leaves are shortly connate; the keel, and sometimes the upper edges of the leaf, are either serrulate or entire, with or without a red line. *Peduncle* two-edged, with a pair of connate *bracts*. *Stamens* four to five inches in diameter; *petals* purple, linear, emarginate. *Anthers* dark-purple. *Stigmas* twelve to fourteen, pale-yellow.

Fig. 1. Calyx and stigmas, after removal of the petals and stamens.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5540.

DENDROBIUM Johannis.

Mr. John G. Veitch's Dendrobe.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4755.)

Dendrobium *Johannis*; caulibus incrassatis foliosis racemis erectis multifloris brevioribus, foliis crassis angustis inæqualiter bidentatis, bracteis minutissimis triangulis, sepalo supremo ac petalis cuneato-ligulatis subacutis undulato-tortis porrectis, sepalis lateralibus subæqualibus, haud æquilongis, basi in calcar extinctiforme extensis, labello ab unguiculatissimâ basi dilatato cuneato oblongo trifido, laciniis lateralibus semirhombeis antice utrinque medio angulatis, laciniâ mediâ sessili subrhombeâ apiculatâ, carinis crassis ternis inter lacinias laterales per discum in disco laciniæ mediæ antice obtuse abruptis, lateralibus supra apicem bi-lobatis, columnâ apice tridentatâ basi utrinque angulatâ, antherâ velutinâ. *Rchb. fil.*

Dendrobium Johannis. *Reichenbach in 'Gardeners' Chronicle,' Sept.* 23, 1865.

As in the case of the species figured in a preceding Plate (Tab. 5537), our knowledge of this very interesting addition to the vast genus *Dendrobium* is due to the researches of Mr. John G. Veitch on the northern coasts of the great Australian continent. From hence it was sent to the Exotic Nursery in the King's Road, where it flowered freely along with *D. Tattonianum* in August last. Specimens having been communicated to Professor Reichenbach, he very properly named the species in honour of its discoverer, being compelled for that purpose to avail himself of his *Christian* name, inasmuch as the surname of the family had been already (in the *Dendrobium Veitchianum* of Lindley) pressed into a similar service.

Though not so gay as *D. Tattonianum*, it is well worth growing, and is apparently of the easiest cultivation in an ordinary orchid-house. The flowers, which are remarkable for their twisted sepals and petals, exhale a pleasant odour of honey.—*J. B.*

Fig. 1. Lip and column. 2. Pollen-masses:—*magnified.*

W Fitch, del et lith.

Vincent Brooks, Imp.

Tab. 5541.

IONOPSIS PANICULATA.

Panicled Ionopsis.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Sepala erecta, æqualia, membranacea; lateralibus in saccum connatis. *Petala* sepalis conformia. *Labellum* membranaceum, sepalis longius, columnâ parallelum, limbo reflexo; basi angustatum, auriculis 2 membranaceis intra marginem callisque 2 carnosis intra auriculas. *Columna* erecta, nana, aptera, semiteres, rostello rostrato. *Pollinia* 2, cereacea, sphærica, postice excavata; caudiculâ lineari, glandulâ obovatâ. *Anthera* unilocularis, rostrata.—Herbæ *epiphytæ, Americæ tropicæ, acaules.* Folia *coriacea.* Flores *in racemis aut paniculis terminalibus dispositi, albi aut violacei. Lindl.*

Ionopsis *paniculata ;* foliis lineari-lanceolatis carinatis, scapo paniculato diffuso, sepalis acutis, petalis obtusis apiculatis longioribus, labelli pubescentis limbo rotundato bilobo sepalis multo longiore, auriculis rotundatis, sacco simplici. *Lindl.*

Ionopsis paniculata. *Lindl. in Bot. Reg. sub t.* 1904. *Fol. Orch.* 1852. *Walpers, Ann. t.* 5. *p.* 685.

Epidendre paniculé. *Descourtilz, Epid. Bras. ined. in Bibl. Delessert. t.* 54.

This is by far the finest species of a genus that otherwise comprehends none but insignificant plants. It must also be regarded as the most extensively dispersed, if Professor Reichenbach's supposition, that it is a mere variety of *I. utricularioides* should prove to be well founded, the latter species being diffused over nearly the whole continent of South America. The specimen figured was taken from among a multitude imported from Brazil by Messrs. Hugh Low and Co., of Clapton, and which formed one of the most attractive features of their orchid-houses during the months of October and November last year. There were innumerable varieties, some almost pure white, others white and yellow, and others again—like the subject of the Plate—with a lovely purple spot on the lip. The flowers last for a considerable time, and are very freely produced; indeed in order to preserve the plants in health it is sometimes necessary to destroy the flower-spikes, which, as in the case of the species of *Phalæ-*

nopsis, are often out of all proportion to the number and strength of the leaves. The species succeeds under the same treatment as *Burlingtonias* or the more delicate kinds of *Oncidium*, and should be placed either on a block of wood, or, what is far better, on one of those earthenware imitations of a block of wood to which the name of "branch-orchid pots" is now applied.

DESCR. *Leaves* thick and channeled, two or three clustered together, linear-lanceolate, keeled, about six inches long. *Scape* panicled and spreading a foot or more long, loaded with almost innumerable flowers of delicate and beautiful texture. *Sepals* sharp-pointed, scarcely more than the eighth of an inch long. *Petals* rather wider than the sepals, but otherwise conformable to them, white. *Lip* very large, pubescent at its base, and with two-lobed, rounded, apiculate limb, almost entirely white in some varieties, while in others it bears on its disk either a patch of yellow or of purple, or of both combined. Here it has two thin rounded auricles within the edge of the lip, and two much more fleshy calli within the auricles themselves. *Column* upright, short, wingless.—*J. B.*

Fig. 1. Side view of labellum and column. 2. Front view of column. 3. Pollen-masses. 4. Front view of labellum :—*magnified.*

W Fitch, del et lith.

Vincent Brooks Imp

Tab. 5542.

CALATHEA tubispatha.

Tubular-spathed Calathea.

Nat. Ord. Marantaceæ.—Monandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4973.)

Calathea *tubispatha* ; acaulis, cæspitosa, glaberrima, foliis obovato-ellipticis leviter obliquis breviter acuminatis v. acutatis basi obtusis integris v. brevissime subcordatis, petiolis vaginantibus glabris folio subæquilongis, scapo gracili, spica terminali pauciflora anguste cylindracea obliqua, bracteis 2 vel 3 arcte convolutis obtusis breviter et oblique apiculatis v. obtusis interioribus inclusis, perianthii flavi tubo incluso, lobo postico rotundato subintegro antico (labello) emarginato v. retuso.—*Forma :* foliis maculis brunneis geminatis biseriatim notatis.

This is the plant referred to in our last Number (Tab. 5535) as a second undescribed *Calathea* introduced by Messrs. Veitch from Western Tropical South America, where it was collected by Mr. Pearce. It is a very graceful species, and its habit and prettily blotched leaves cannot fail to render it a valuable addition to our variegated stove plants. The spike is remarkable in the genus, being narrowly cylindrical, slightly directed to one side, the outer bract equalling or exceeding the rest, each closely convolute and subtending about two rather pretty, though small yellow flowers. We have not the opportunity at present of making a detailed analysis of the expanded flower.

Descr. Cæspitose, about one and a half to two feet high. *Leaves* obovate-elliptical, shortly acuminate or cuspidate, obtuse and entire or very narrowly cordate at the base, slightly oblique, firmly though thinly membranous, with a row on each side of the midrib of somewhat rhomboidal or oblong, deep brown blotches in pairs ; around these blotches the green colour of the leaf is somewhat paler than along the midrib and margin, five to eight inches in length. *Scape* slender, erect, glabrous, about one foot high, sheathed below by the subtending leaf. *Spike* oblique, about one inch long, few-flowered, narrowly cylindrical ; *bracts* two or three, outer bract equalling or exceeding the rest, broadly obovate or

quadrate-rotundate, somewhat truncate and obscurely apiculate, closely convolute ; *bracteoles* membranous, the two lateral ones with winged keels. *Flowers* in pairs (or with rudiments of more) in the axil of each bract, yellow, the perianth but slightly exserted.

Fig. 1. Flower removed from its bract. 2. Stamen and stigma :—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5543.

PACHYPODIUM succulentum.

Succulent Pachypodium.

Nat. Ord. Apocynaceæ.—Pentandria Monogynia.

Gen. Char. Calyx 5-partitus; lobis lanceolatis, basi squamâ vel glandulis omnino destitutis. *Corolla* hypocraterimorpha, sub-5-fida, externe puberula; tubo interne sub staminum insertione pilis retrorsis per lineas quinque hispido, esquamato; lobis æstivatione sinistrorsum convolutis. *Antheræ* supra mediam tubi partem sessiles, sagittatæ, acumine longo apice polline destituto, medio stigmati adhærentes. *Nectarium* e glandulis 5 discretis truncatis constans. *Ovaria* 2, ovata, glabra, nectario longiora. *Ovula* ∞. *Stylus* 1. *Stigma* oblongum, ad basim angulo cinctum. *Folliculi* (ex E. Mey.) compressiusculi, erectiusculi. *Semina* obovata, subcompressa, pendula, ad umbilicum comosa, comâ multo breviora. *Testa* fulva, scabra, tenuis. *Albumen* tenuissimum, endopleurum simulans. *Embryo* rectus; radiculâ superâ, crassâ, ovoideâ, prope cotyledones rotundatâ, apice conoideâ; cotyledonibus rotundatis, basi cordatis, facie adpressis, subfoliaceis, radiculâ brevioribus.—Fruticuli *Capenses, erecti;* caudice *sphærico vel napiformi succulento;* ramorum epidermide *caducâ lævi cortice subtus viridi aculeis geminis ex epidermide sparsis;* foliis *intra aculeos axillaribus solitariis,* petiolo *submullo;* floribus *apice ramorum approximatis axillaribus, roseo-albis. Alph. De Cand., Prod. v.* 8. 423.

Pachypodium *succulentum;* ramis apice subvelutinis v. glabratis, foliis lanceolatis v. lineari-ovalibus acutis superne scabrido-pubescentibus glabrescentibus subtus pubescentibus v. tomentoso-pubescentibus, lobis corollæ obovatis **obovato-oblongisve obtusis vel retusis.**

Pachypodium succulentum. *A. De Cand. l. c.*

Echites succulenta. *Thunb. Prodr.* 37.

Belonites succulenta. *E. Mey. Comm.* 187.

Pachypodium tomentosum. *Don, Gen. Syst. v.* 4. 78.

Pachypodium tuberosum. *Lindl. Bot. Reg. tab.* 1321; *Lodd. Bot. Cab. tab.* 1676.

A South African plant, originally described by Thunberg, belonging to the same remarkable category as the *Adenium obesum* figured recently in this journal (Tab. 5418), and the two gouty-stemmed Vines, *V. Bainesii* and *V. macropus* (Tabb. 5472, 5479). The exceptional habit of these plants in the families to which

they respectively belong, affords an interesting problem for the consideration of those who incline to the derivative origin of species, and may be supposed to illustrate one kind of useful character, "selected," and thus apparently moulded, by the external conditions to which they have been exposed through a long period of time. There can be no doubt that our plant is the same as *P. tuberosum*, Lindl., the figure of which we quote above. At the time of publication of that species the true *P. succulentum* of Thunberg was not certainly known. Indeed M. A. De Candolle, in the 'Prodromus,' retains the two as distinct. They have been reduced to one species by M. Planchon (MS. note in Herb. Hook.). The caudex of another species of the genus *Pachypodium* (*P. bispinosum*) is said to be edible. Our figure is from a specimen flowered in the Royal Gardens, Kew, presented by W. W. Saunders, Esq., and sent home by Mr. Cooper from South Africa.

Descr. *Caudex* much thickened and succulent, smooth, emitting erect or ascending, annual, succulent, leafy, glaucous or glaucescent branches, more or less armed below the leaves with straight, slender, acute, stipular spines. *Leaves* firm, dark-green, lanceolate, acute, entire, narrowed to the base, subsessile, obsoletely and rather roughly pubescent above, pubescent or somewhat tomentose beneath, about two inches long, half to three-quarters of an inch broad. *Stipular spines* most prominent on the lower part of the branches, in divaricate pairs, straight, slender, about a quarter of an inch long. *Flowers* terminal, umbellate, forming a head about four inches in diameter, very shortly stalked. *Calyx* very short, quinquepartite, with lanceolate lobes, pubescent or nearly glabrous. *Corolla* hypocrateriform, the spreading limb about equalling the tube, tube and limb rose-red beneath, obovate-oblong lobes of the latter paler above, throat deep-red. *Stamens* included; *anthers* sessile or with very short filaments, sagittate, adhering to the oblong *stigma*. *Ovaries* two, uniting above in the erect filiform *style*.

Fig. 1. Reduced figure of entire plant, showing the gouty stem or caudex. 2. Lower part of corolla-tube laid open, showing the anthers. 3. Pistil:—*magnified*.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5544.

ABRONIA FRAGRANS.

Fragrant Abronia.

Nat. Ord. Nyctagineæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 2879.)

Abronia *fragrans;* foliis crassiusculis ovatis v. oblongo-ovatis obtusis basi interdum in petiolum breviter angustatis sinuatis v. lobato-sinuatis pilosulis glabratisve, involucri foliolis late ovato-rotundatis breviter apiculatis submembranaceis, perianthii limbo albo, lobis obovato-rotundatis bifidis, fructibus 5-alatis.

Abronia fragrans. *Nuttall in Herb. Hook.; Kew Journ. Bot. v.* 5. (1853), 261: *Torrey and Gray in Botany of Gunnison's Railroad Expedition, p.* 14 (128), *tab.* x.

Notwithstanding the publication of an excellent engraving of this plant in the Report of the Botany of the American Survey, referred to above, it would appear to be hitherto undescribed. In habit it much resembles *Abronia mellifera*, figured in this Magazine (Tab. 2879), differing in the form of the involucral leaves, and the size, colour, and lobing of the perianth. It is the finest species of the small genus to which it belongs, and may be regarded as a valuable addition to our garden flora. Geyer, who collected specimens on the "loamy, sandy, firm banks" of the Platte river, describes the flowers as "porcelain-coloured, opening only at night and very fragrant." It is to the sandhills of this tributary of the Missouri and the eastern flank of the Rocky Mountains, between 40° and 45° north latitude, that the species appears to be confined. We are indebted to Mr. Thompson, of Ipswich, for the specimen here figured, the first probably which has been flowered in England.

Descr. *Stem* procumbent, spreading, throwing up numerous ascending, succulent, slightly hairy or glabrate, terete flowering-branches. *Leaves* opposite, slightly unequal, ovate or oblong-ovate, often a little oblique, obtuse, sinuate, obscurely lobed or nearly entire, fleshy, glabrous or sparsely pubescent, with obscure venation, one and a half to two inches long, three-quarters to one inch broad, on petioles of one inch or less. *Peduncles* axil-

lary, solitary, ascending, two to five inches long, pubescent or puberulous. *Umbel* dense, many-flowered, two to three inches in diameter; *involucral scales* somewhat membranous, broadly ovate-rotundate, shortly pointed, glabrous or nearly so, one-third or one-half the length of the flowers. *Perianth* hypocrateriform, *tube* dilated and deeply quinque-sulcate at the base around the ovary, straight above, about one inch long, greenish-white, minutely glandular, limb spreading, "porcelain-white," deeply five-lobed, lobes broadly obovate-rotundate, obtusely bifid. *Stamens* unequal included; *filaments* apparently adhering more or less to the perianth though easily separable, filiform; *anthers* oblong subacute. *Ovary* oblique glabrous; *style* filiform, slightly thickened above and laterally stigmatose. *Fruit* (according to the figure of Messrs. Torrey and Gray) obovoid in circumscription with five rounded wings.

Fig. 1. Perianth. 2. Persistent base of perianth surrounding the ovary. 3. Perianth-tube laid open. 4. Stamens, showing their insertion. 5. Ovary:—2–5, *magnified*.

W Fitch del.et lith.

Vincent Brooks, imp

Tab. 5545.

BEGONIA Pearcei.

Mr. Pearce's Begonia.

Nat. Ord. Begoniaceæ.—Monœcia Polyandria.

Gen. Char. (*Vide supra*, Tab. 4131.)

Begonia *Pearcei* (§ Huszia, §§ Paucipetalæ, A. De Cand.); caule herbaceo erecto folioso pubescente, foliis palmatim plurinerviis oblique ovatis acuminatis basi cordatis irregulariter crenato-serratis, petiolis laminâ brevioribus, stipulis ovatis ciliatis, pedunculis folio longioribus bifloris, bracteis ovatis rotundatisve ciliatis, floribus flavis; *fl. masc.* sepalis 2 amplis rotundatis petalis 2 obovatis vix brevioribus, *fl. fœm.* lobis 5 obovatis obtusis, ovario pubescente trialato.

A very beautiful species, nearly allied in botanical characters to *B. cinnabarina* (Bot. Mag. 4483), introduced from La Paz by Messrs. Veitch, where it was obtained by Mr. Pearce, whose name well deserves to be associated with it. The foliage is very pretty, the leaves being of a dark velvet-green above, dull-red traversed by pale-green nerves beneath, and in agreeable contrast with the rather large, bright-yellow, overtopping flowers.

Descr. *Stem* succulent, pubescent, leafy. *Leaves* obliquely ovate, acuminate, cordate at the base, irregularly crenate-serrate, on petioles of about half their length, dark velvet-green and nearly glabrous above, dull red beneath excepting the nervures. *Peduncles* erect, two-flowered, exceeding the leaves. *Bracts* rotundate or elliptical, entire, pubescent or ciliate. *Flowers* yellow, about an inch to an inch and a quarter across; *male fl.* perianth quadripartite, two outer segments ample, rotundate, two inner rather smaller, about equal in length to the outer; *female fl.* with a quinquepartite perianth, lobes obovate-oblong, obtuse. *Stamens* indefinite, free; *filaments* filiform; *anthers* obovate, obtuse, two-celled. *Ovary* three-winged, three-celled, with indefinite *ovules* on each side of the forked placentas; *styles* spirally stigmatose; *capsule* not seen.

Fig. 1. Stamen. 2. Ovary and styles. 3. Transverse section of an ovary:—*magnified.*

November 1st, 1865.

2.

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1.

W Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5546.

PALUMBINA candida.

White-flowered Palumbina.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. *Sepalum* dorsale oblongum, subacutum, sepalum inferius æquale. *Petala* oblonga, subacuta. *Labellum* subæquale. *Columna* crassa; androclinium obliquum, apiculatum, rostello quinquelobulo seu prærupto medio unilobulato; alæ membranaceæ, retusæ, denticulatæ, juxta foveam circularem. *Tabula stigmatica* obliqua, prona, increscens super labelli basin. *Caudicula pollinis* utriusque caudiculæ tertiæ communi inserta. *Rchb. fil.*

Palumbina *candida*; pseudobulbis ligulatis compressis monophyllis (? aut diphyllis), foliis cuneato-ligulatis, racemis erectis gracilibus flexuosis brevioribus.

Palumbina candida. *Rchb. fil. Walp. Ann. v.* 4. *n.* 699 *et in Gard. Chron.* 1865 (new plan to 311), *cum xylo.*

Oncidium candidum. *Lindl. Rot. Reg. v.* 29, 1843, *Misc.* 76.

Oncidium? candidum. *Lindl. Folia, n.* 53.

A pretty and interesting plant, originally flowered some twenty years ago by the Messrs. Loddiges, when it was doubtfully referred to *Oncidium* by our great English orchidist—now, alas, no more! Since then the plant has appeared in the collection of Consul Schiller, when the examination of more perfect specimens satisfied Professor Reichenbach that it was a truly distinct form, to which he applied the generic name of *Palumbina*. It was introduced from Mexico by Hartweg, while in the service of the London Horticultural Society, but was probably lost through having been kept too warm. In a moderate temperature it is easily grown, blooming during the summer months and lasting long in beauty. The figure was derived from a very fine specimen exhibited in June last at South Kensington by Mr. Day. It has also flowered in the Royal Gardens at Kew.

Descr. A small plant with narrow compressed *pseudobulbs*, each bearing a single linear or slightly wedge-shaped *leaf* from six inches to a foot long. *Racemes* few-flowered, erect, slender,

appearing with the young growth, of a dark-purplish colour, somewhat flexuose, longer than the leaves. *Flowers* about an inch across of a firm texture, all but entirely white. *Upper sepal* oblong subacute, *lower sepals* coalescing into one of the same size as the upper. *Petals* oblong, subacute. *Lip* about the same size as—or in some varieties larger than—the petals, with a few small reddish spots on a yellow ground on the stigmatic surface at its base. *Column* connate with the lip, short and thick, furnished with jagged spreading membranous wings. *Pollen-masses* oblong, provided with a double caudicula.—*J. B.*

Fig. 1. Profile of the lip and column. 2. Lip seen in front. 3. Pollen-masses :—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5547.

THIBAUDIA Jessicæ.

The Honourable Mrs. John Bateman's Thibaudia.

Nat. Ord. Vacciniaceæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4303.)

Thibaudia *Jessicæ*; glaberrima, foliis membranaceis ovatis ovato-lanceolatisque caudato-acuminatis basi rotundatis integerrimis subquintuplinerviis reticulatim venosis, racemis brevibus solitariis foliis multo brevioribus, pedunculis pedicellisque brevibus crassis, floribus amplis, calycis dentibus latis obtusis, corolla oblongo-cylindracea, pallide rubra, filamentis brevibus crassis, antherarum rostro loculo breviore.

For this superb plant we are indebted to James Bateman, Esq., a most successful cultivator of the genus, who flowered it in September of the present year, and at whose desire it bears the name of a lady who was an ardent admirer of the genus; of its precise habitat we are uncertain, but believe it to be the mountains of Caraccas, the plants having been procured from Mr. Linden's celebrated establishment at Brussels. It was sent under the name of *T. macrophylla*, H. B. K., a plant which differs remarkably in the long pedicels of the flowers, and according to specimens so named by Bentham (and collected in Humboldt's locality by Hartweg) in the very coriaceous leaves. The most decided characters by which the *T. Jessicæ* differs from its nearest allies are the very slender ultimate branches, singularly membranous texture of the very large leaves, large flowers, and short pedicels. It resembles a good deal a species in the Hookerian Herbarium collected by Professor Jameson on Pichincha, at an altitude of 8000 feet, and may be the same, but the leaves and flowers both appear to be very much larger.

Descr. A glabrous shrub, with pendulous branches. *Leaves* a span to ten inches long, shortly petioled, ovate or ovate-lanceolate, rounded at the base, narrowed into a long acuminate apex, quite entire, membranous, with five more prominent nerves and numerous reticulating lesser ones. *Flowers* ten to twelve, in short,

solitary racemes; *peduncle* very short and stout; *pedicels* also short, usually shorter than the *calyx*, red; *bracts* minute. *Calyx-tube* hemispherical, lobes short, obtuse. *Corolla* two-thirds of an inch long, between oblong and cylindric, more inflated below, smooth and fleshy, pale red, mouth contracted with small short teeth. *Filaments* short and thick; *anthers* short, linear-oblong, with a short straight terminal tube, beneath the insertion of which is a very short mucro.—*J. D. H.*

Fig. 1. Ovary with two calyx-lobes removed, disk and style. 2 and 3. Stamens:—*all magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5548.

CALCEOLARIA HYSSOPIFOLIA.

Hyssop-leaved Calceolaria.

Nat. Ord. Scrophularineæ.—Diandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4929.)

Calceolaria *hyssopifolia ;* fruticosa, subglabra, glutinosa, foliis infimis linearilanceolatis sæpe serrulatis, superioribus linearibus integerrimis margine revolutis basi angustatis glabris subtus albidis, panicula laxa subcorymbosa, calycis viridis viscosi laciniis acuminatis, corollæ glabræ labio superiore concavo calycem æquante, inferiore maximo obovato-orbiculato basi parum contracto. *Benth.*

Calceolaria hyssopifolia. *Humb. B. et Kunth, Nov. Gen. et Sp. v.* 2. *p.* 386. *Benth. in DC. Prod. v.* 10. *p.* 222.

For the introduction of this fine shrubby and hardy Calceolaria we are indebted to Isaac Anderson Henry, Esq., F.L.S., of Hay Lodge, Trinity, Edinburgh, who received the seeds from Professor Jameson, of Quito, and flowered the plant in the open air in August of the present year. The species is a native of the Quitenian Andes at elevations of 10–11,000 feet.

Descr. A twiggy *shrub* two to four feet high, nearly glabrous throughout. *Leaves* almost fascicled in the short axillary branchlets, one and a half to two and a half inches long, upper linear or linear-oblong or oblong-lanceolate, more or less serrulate, with revolute margins, white beneath, *corymbs* many-flowered. *Calyx-tube* green, viscid, broadly tringular-ovate, acuminate, segments red at the apex. *Corolla* pale sulphur-colour, upper lip as long as or longer than the calyx, tumid ; lower very large, obovate-orbicular, crenulate round the circumference, closed by the upper.

Fig. 1. Calyx and ovary :—*magnified.*

December 1st, 1865.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

Tab. 5549.

PALAFOXIA Hookeriana.

Sir W. Hooker's Palafoxia.

Nat. Ord. Compositæ: Eupatoriaceæ.—Syngenesia Superflua.

Gen. Char. Capitula pluriflora. *Involucrum* oblongum v. campanulatum; squamis 8–15, in fructu sæpe stellatim patentibus. *Receptaculum* nudum. *Achænia* angulata, exteriora squamis involuta. *Styli* rami elongati, obtusi, semiteretes, subhispidi. *Pappus* paleis 8–12 scariosis 1-nerviis pinnato-striatis siccis 1-serialibus alternis brevioribus v. 2-seriatis exterioribus brevioribus constans.—Frutices *v.* herbæ *Americanæ, habitu* Stevias *referentes.* Folia inferiora *opposita et superiora alterna indivisa.* Capitula *laxe corymbosa.* Corollæ *albæ carneæ v. purpureæ. De Cand.*

Palafoxia *Hookeriana;* herbacea, foliis lanceolatis 1–3-nerviis, involucri squamis 12 v. pluribus glandulosis 2-seriatis exterioribus lanceolatis, interioribus obovato-lanceolatis oblongisve, radiis 8–10 exsertis late cuneatis 3-partitis, fl. disci corollæ limbo infra medium 4-lobo, pappo squamis 6–8 lanceolato-acuminatis achænium pilosum æquantibus, disci pappo squamis brevissimis obtusis rigidis, achænio fere glabro.

Palafoxia Hookeriana. *Torr. et Gray, Fl. N. Am. v.* 11. *p.* 368.

Palafoxia Texana. *Hook. Ic. Pl. t.* 148. *non De Cand.*

A charming addition to our hardy herbaceous plants, described by the author of the species as the most showy species of the genus. It first flowered in the Royal Gardens in 1863, from seeds sent by Dr. Parry from New Mexico, and we have more recently received it from Mr. Thompson, of Ipswich, one of the most successful raisers of American and other herbaceous plants. It is also a native of Texas and Arkansas.

Descr. A *herb* two to four feet high, glabrous below, above hispid and glandular. *Leaves* alternate, two to three inches long, petioled, lanceolate, acute, three-nerved, quite entire. *Corymbs* of many heads which are one inch across or more, either pale or bright rose-red. *Involucral* scales twelve or more, green with red tips. *Ray corollas* broadly cuneate, deeply three-lobed, disk

ones tubular, with a broad limb five-cleft to the middle. *Achenes* of the ray nearly glabrous, of the disk hairy. *Pappus* of the disk of six to eight narrow-lanceolate acuminate scales ; of the ray, of as many very short obovate obtuse scales.

Fig. 1. Ray flower. 2. Disk flower. 3. Pappus scale of the latter :—*all magnified.*

1.

W Fitch, del et lith

Vincent Brooks, Imp

Tab. 5550.

TRICHOPILIA Turialvæ.

The Turialva Trichopilia.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4654.)

Trichopilia *Turialvæ;* sepalis petalisque lineari-ligulatis acuminatis, labello cuneato flabellato trilobo, lobis lateralibus obtusatis dilatatis, lobo medio reniformi bilobo angustiori, carinis nullis, labelli ungue cum columnâ basi connato, androclinii cucullo bene fimbriato, lobis lateralibus paullo brevioribus, foveâ basin versus angustiori, basi retusâ, antheræ carinâ humili loculis breviori. *Rchb. fil.*

Trichopilia Turialvæ. *Rchb. fil. in Otto Hamb. Gartenz. v.* 19, 1863, *p.* 11. *Gard. Chron. Aug.* 19, 1865, *p.* 770.

The true Trichopilias seem to be almost exclusively confined to that remarkable isthmus, so rich in Orchids, which connect the northern and southern portions of the vast American continent. They are especially numerous on the mountain ranges of Veraguas, where, as its name implies, the present species was found on the slopes of the snow-capped Turialva.* Professor Reichenbach, by whom it was first described, thus speaks of the plant in the 'Gardeners' Chronicle' (Aug. 19, 1865, p. 770), "a species in the way *T. albida*, Wendl. fil.; *T. oicophylax*, Rchb. fil.; and *T. maculata*, Rchb. fil.; none of which can boast much beauty. The erect fimbriate membrane surrounding the anther reminds one of an old-fashioned, stiff, erect, lady's collar. The flower is yellowish-white, the lip deeper yellow. It was discovered by Mr. Wendland, the son (or rather the grandson, since he is already the third of the Wendlands), on the volcano Turialva, in Central America. Later it was also observed by a traveller named Sell." I would add that in its colouring and general appearance it is not unlike the *T. picta* of Lemaire.

The species has flowered in several collections during the past

* The name of the mountain (literally "white tower") was given to it by the Spaniards to describe its remarkable appearance from the sea.

summer, and, judging from the specimens I have examined, seems to vary considerably in the size and tinting of its blossoms. Mr. Fitch's drawing was taken from a plant exhibited in July last at South Kensington by Mr. Williams, of the Paradise Nursery. Like the rest of the genus it is very easily managed, provided it be not kept too warm. The Trichopilias, however, can scarcely be reckoned amongst "cool" Orchids in the extreme sense of the term, requiring as they do, a temperature considerably higher than would suffice for many of the most popular Odontoglossa. —*J. B.*

Fig. 1. Column :—*magnified.*

W. Fitch, del. et lith

Vincent Brooks, Imp.

Tab. 5551.

DIANELLA Tasmanica.

Tasmanian Dianella.

Nat. Ord. Liliaceæ.—Hexandria Monogynia.

Gen. Char. Perianthium 6-partitum, æquale, patens, deciduum. *Stamina* 6, filamentis curvis apice incrassatis glabris pubescentibus stuposisve; antheræ lineares, strictæ, basifixæ. *Ovarium* 3-loculare; stylus gracilis, stigmate simplici; ovula plurima. *Bacca* globosa v. oblonga, 3-locularis, loculis polyspermis. *Semina* ovoidea, testa atra splendente, umbilico nudo.—Herbæ *rigidæ, perennes;* rhizomate *repente;* radicibus *fibrosis.* Folia *rigide coriacea, graminea, basi semivaginantia.* Flores *nutantes, paniculati, albi v. cærulei, pedicellis apice articulatis basi bractea unilaterali stipatis.* Baccæ *cæruleæ. Fl. Tasman.*

Dianella *Tasmanica;* 4–5-pedalis, foliis radicalibus longe et late ensiformibus, marginibus revolutis carinaque prominula serrulatis, panicula decomposite ramosa, pedunculis subfasciculatis pedicellisque curvis, antheris parvis filamentorum parte incrassata brevioribus, baccis late oblongis subglobosisve.

Dianella Tasmanica. *Hook. f. Fl. Tasman. v. 2. p.* 57. *t.* 133 *A.*

A handsome Tasmanian greenhouse plant, of which the great beauty consists in the abundance of its bright blue berries, which hang for many weeks on the hair-like pedicels, and form a conspicuous ornament in a conservatory. It was raised from seeds sent from Tasmania by our valued correspondent William Archer, Esq., F.L.S.

Descr. A large rigid grassy-leaved plant, sometimes attaining five feet in height. *Leaves* three to four feet long, broadly ensiform, with revolute margins, armed with spinular teeth that cut the hand if the leaves be incautiously grasped. *Panicles* large, lax, decompoundly branched, very many-flowered. *Flowers* drooping, pale-blue, about a half to three-quarters of an inch in diameter. *Perianth* segments oblong, reflexed. *Stamens* short, filaments very thick, almost cylindric, glabrous,

with a very short stipes; *anther* small, much shorter than the filaments. *Berries* broadly oblong, deep-blue, half to three-quarters of an inch long.

Fig. 1. Portion of flowering panicle,—*natural size.* 2. Flower,—*magnified.* 3. Portion of panicle, fruiting. 4. Longitudinal, and, 5. Transverse section of berry,—*natural size.* 6. Seed,—*magnified.*

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